



IronWood Technologies

Railroad Accident Reconstruction

Federal Railroad Administration

False Proceed Signal Database

January 1, 1995 through May 3, 2004

All Reports - 1995

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
7	1/8/1995	CSXT	CTC			Train PO8308	None	Richmond, VA	N
<p>On January 8, 1995, Train PO 8308 reported he has a SLOW CLEAR indication from #4 Track to #3 Track at Hillard Road for southbound movement. This signal was not requested at this time; however, northbound signal for #3 Track was, and was indicating.</p> <p>Signal personnel investigated the incident making all required operational tests. The incident could not be duplicated. It was determined that signal system was functioning as intended, and signal system was restored to service.</p>									
449	1/11/1995	SP	CTC			01CICHX-10	Signal 50RA	Akela, New Mexico	N
<p>On January 11, 1995 at approximately 11:10 PM Engineer operating train no. 01 CICHX-10 traveling east, reported that signal 50RA at West Akela was Green and the next signal 52RA was Red. Signal 50RA should have been Yellow.</p> <p>Under the direction of the Signal Maintainer, the signal system was immediately removed from service and thoroughly tested. It was found that the report made was true. Upon further investigation, it was found that a broken eyelet in the negative armature circuit in the eastbound signal 52RA caused that circuit to remain open and signal 52RA to remain Red regardless of the position of the controlling relays.</p> <p>The defect was corrected. The signal system was thoroughly tested and found to be working as intended. The system was restored to service on January 12, 1995 at 3:00 AM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
21	1/12/1995	NS	CTC			8031	Track Circuit	Devon, WV	N
<p>At approximately 8:00AM, train No. 946U1 was shoving a caboose and four (4) cars eastbound from #2 Storage Track onto the Buchanan Branch at Devon. The move was governed by dwarf signal 4L which displayed a SLOW APPROACH aspect. The move was stopped with three (3) cars past the 4L signal and inside the "OS" at Devon, in order to make a reverse movement. It was noticed by the train crew that 4L signal was still displaying SLOW APPROACH. Once the reverse movement started, 4L signal went to a STOP aspect.</p> <p>Investigation by signal personnel showed that a 0.06 ohm shunt, when applied at the base of the rail in the "OS" track circuit would drop the "OS" track relay. However, when held to the top of the rail, the shunting was erratic. There were signs of rust on the wheels in this area. Further investigation led to the determination that rust on the top of the rail in #2 Storage Track had built up on the wheels of the cars being shoved, and that, along with the rust already on the "OS" rails, caused loss of shunt. A cut of cars was shoved back onto the "OS" to verify this finding. Intermittent shunting was evident on this cut, also. A car with brake applied was pulled over the affected tracks to clear the rust to the point where shunting was reliable.</p> <p>Ground tests were performed and proper track relay current was verified. No other discrepancies were found, and the signal system was returned to service.</p>									
8	1/17/1995	CSXT	CTC			Train F767-17	Signal 269	Lilesville, NC	N
<p>On January 17, 1995, Train F767-17 reported APPROACH MEDIUM signal at M.P. SF-269. This signal or route was not intended by CSXT due to the signal in advance being a control signal and at STOP.</p> <p>Signal system was removed from service. Signal personnel, along with FRA personnel investigated the incident making all operational tests. The incident could not be duplicated. It was determined that the signal system was functioning as intended. Signal system is restored to service.</p> <p>(Handwritten notes on bottom of form: "CD Relay failing - pitted contacts")</p>									
37	1/20/1995	UP	CTC			NLNP-18	None	Darr, Nebraska	N
<p>On January 20, 1995, at 15:53 (CDT) westbound NLNP-18 on the Council Bluffs Subdivision was stopped on Track 1 at Control Point B233 with westbound LND-15 occupying Track 1 west of the control point. NLNP-18 reported signal 1W went from Red to Green about four times in 5-second durations.</p> <p>An investigation could not duplicate the occurrence, and it was determined that loss of shunt by LND-15, a single 4-axle locomotive, had caused the signal display.</p> <p>All applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
22	1/24/1995	NS	CTC			5158	Foreign Current	Corinth (Blanchet), KY	N
<p>Train No. 388 was stopped on Track #2 at Blanchet waiting on Train No. 108 to clear the block ahead. Meanwhile, Train No. 108 was running northbound, Track #2, on an APPROACH indication waiting for two southbounds to clear the single track ahead. The dispatcher had requested the northward signal for No. 388 at Blanchet so that it would come in once No. 108 could get a signal and clear the block. The crew on No. 388 reported observing that the signal at Blanchet displayed an APPROACH indication for about six (6) seconds and then went back to a STOP. At this point in time the crew knew that No. 108 was still in the block ahead and reported the false proceed signal they had observed.</p> <p>Signal personnel investigated and determined that the cause was foreign current causing the coded track relay at Blanchet to chatter on the negative side, thus momentarily picking up the "H" relay for Track #2 while it was occupied. This occurrence was duplicated by observing signal equipment response whenever a northbound train passed a repeater cut section about two miles north of Blanchet. As the rear axle passed through the insulated joint stagger at the cut section, the track relay at Blanchet would chatter and very briefly pick the "H" relay. There was approximately 6.5 VAC foreign current present in the stagger at the cut section.</p> <p>The problem was corrected by installing track reactors (in both tracks) at the Blanchet L-case in series with the respective track relays. Appropriate tests and inspections were performed to verify signal system integrity, and the signals were returned to service.</p>									
23	1/25/1995	NS	CTC			2540	Design	New Bohemia (Poe), VA	N
<p>Train No. 821, traveling westbound on the Eastbound Main reported a CLEAR signal indication at Milepost N-73.5 and then encountered a RESTRICTED indication at Milepost N-75.7.</p> <p>Signal personnel investigated and determined that the RESTRICTED signal was due to a line wire wrap at Milepost N-77.1 which shorted out the coils of the ZTPA relay at the N-75.7 signal. A design deficiency was responsible for fact that the singular failure of the ZTPA relay did not result in an HD pole change to the signal at Milepost N-73.5.</p> <p>The problem was corrected by circuit changes and by correcting the line wrap condition.</p>									
450	1/26/1995	ATSF	CTC			N/A	Relay	Kansas City, KS	N
<p>At approximately 8:45PM, January 26, 1995 dispatcher reported signal 2W at CP 148 had cleared without being requested. Signal Department investigated the reported incident and determined the 2WBHR relay failed to de-energize allowing signal 2W to reclear after the train passed 2W signal. The 2WBHR relay was removed from service and signal system tested to verify proper operation. Defective relay has been taken to Topeka for further testing to determine cause of failure.</p>									
451	1/27/1995	CR	AB			Engine 3521	Signal 2082E	Winchester, Indiana	N
<p>Engineer on train NLP17 reported that signal 2082E displayed STOP AND PROCEED with train ML 460 ahead in the block. After ML460 cleared block of 2082E, signal displayed CLEAR aspect instead of APPROACH. Cause was found to be defective 2082EDHR relay, due to polar armature failing to move to the reverse position account frozen in normal position. Relay removed from service, signal system tested, and placed back in service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
24	1/29/1995	NS	AB			8575	Track Circuit	Ford, VA	N
<p>Train No. 235 had lead unit 8575 fail with a wheel slip alarm. The train was stopped and the rest of the units were used to move the train to the adjacent track. Mechanical shop employees then attempted to move the stalled engine which was by that time alone in the block. The protecting signal was being observed by Trainmaster and the crew of No. 235, and they noticed that it was flopping between a STOP and CLEAR indication while the attempt was being made to move the engine.</p> <p>Signal personnel were called to investigate, and by the time they arrived, engine 8575 had been moved to a spur track. It was found that the track relay, a 2 ohm, 4 point, DN-11, could be shunted with a 0.06 ohm shunt at either end and at the point where the engine was being operated at the time the false clear was observed. The track relay was tested and found to be in spec. The Mechanical forces were questioned about the operation and condition of engine 8575, and they said it had been leaking grease profusely to the rail. Due to this grease and the icy conditions, they had operated the sanders while attempting to move the engine. The condition was duplicated as closely as possible with the engine heavily sanding the rail and loss of shunt did occur. The cause was determined to be the grease/sand combination on the rails that resulted in the intermittent loss of shunt.</p> <p>Once the rails were determined to be sufficiently clean of the grease, the signals were fully returned to service.</p>									
452	2/5/1995	SP	CTC			BN 063	Signal 2H	Utah Jct., CO	N
<p>On February 5, 1995 at approximately 10:56 PM, Engineer operating train no. BN 063 traveling east, reported that signal 2H at Utah Jct. was CLEAR when it should have been Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was immediately removed from service and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The Digicon system showed that signal had not been requested by the dispatcher and was not CLEAR.</p> <p>The signal system was restored to service on February 6, 1995 at 5:10 AM.</p>									
9	2/6/1995	CSXT	AB				Signal 122.3	Social Circle, GA	N
<p>On February 6, 1995, Signal Maintainer was dispatched to signal trouble at M.P. YYG-122.3. Upon investigation, he determined that the home signal at M.P. YYG-120.1 displayed a CLEAR indication while the intermediate signal in advance (122.3) displayed a Red indication. Signal system was removed from service. Upon further investigation, it was discovered that the signal control wires were wrapped, causing improper polarity to be applied to control relay.</p> <p>Control wires were unwrapped, and situation corrected. Operational test was performed; and signal system was returned to service.</p>									

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453	2/8/1995	SP	AB			1CHSXF-06 West	Signal 15329	Vaughn/Leoncito, NM	N
<p>On February 8, 1995 at approximately 1:00 AM Engineer operating train 1CHSXF-06 traveling west, reported that signal 15329 was Green and the next signal 15319 was Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was placed at STOP. Signal personnel inspected the signal system and found that the motor brushes and commutator at signal 15319 were covered with carbon thus preventing the proper operation of the semaphore blade.</p> <p>After the motor brushes and commutator were cleaned, the signal system was thoroughly tested and found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on February 8, 1995 at 3:30 AM.</p>									
459	2/9/1995	CR	CTC			Train ML420, Engin	Signal 254S	Northlumberland, PA	N
<p>Engineer on train ML420 reported that signal 254S displayed APPROACH. The aspect then upgraded to APPROACH MEDIUM several times before passing the signal with 76L signal at Norry at STOP. Cause was due to contact bounce of the 76LBR relay. 76LBFR relay was removed from service, circuit design corrected, signal system tested and returned to service.</p>									
10	2/12/1995	CSXT	CTC			Train Q67611	None	Atlanta, GA	N
<p>On February 12, 1995, Train Q67611 alleged having Lunar over Red indication at signal 10 at top of slide, and then to Dark over Red, this route was not requested at this time. Signal system was removed from service.</p> <p>Signal person performed all required operational tests. It was determined that signal system was functioning as intended. Signal system is restored to service.</p>									

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454	2/12/1995	NICD	APB			2009	Track Circuit	Porter, IN	N
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At 1:46 P.M., Sunday, February 12, 1995 a false proceed indication was displayed at eastbound home signal number 481, a head block signal at the east end of the Wilson passing track, milepost 47.46.

An APB system with continuously-lighted, three-aspect wayside colorlight signals is in place in the area in question. Trains operate by timetable and train order authority. The maximum authorized passenger train speed for this area is 79 mph. The maximum authorized freight train speed is 35 mph. A local speed restriction of 40 mph applies to the diverging route.

Extra train #2009 East, an eastbound freight train with two engines and 21 empty gondolas was in the clear awaiting a meet at the east end of the Wilson passing track per train order #21, dated 2/12/95. Scheduled passenger train #508, a two-car consist, was proceeding westward toward the meet location per train order #22, dated 2/12/95. See figure 1.

Train 2009 East observed absolute signal #481 display a STOP indication at the time it was expected that train 508 passed the opposing head block signal. Signal 481 continued to display a STOP indication as train 508 proceeded westward. As train 508 came into the view of train 2009 East, the indication of signal 481 changed from STOP to PROCEED and remained thus until train 508 proceeded through the turnout when signal 481 again displayed a STOP indication. Signal 481 then recleared as train 508 left the fouling circuit. The crew of train 508 did not report any unusual signal aspects. Train 2009 East, however, reported the false proceed aspect to the dispatcher.

The signal supervisor and a signal maintainer were immediately notified of the false proceed report. Upon inspection of the track circuit in the area in question, the north rail of the main track was found broken at approximately the same location where train 508 was observed when signal 481 was reported to have falsely cleared. When the track circuit was tested, it was discovered that the track relay would release when a 0.06-ohm test shunt was applied to the east of the rail break but that the track relay was unaffected by a test shunt applied west of the rail break. Track crews repaired the broken rail while signal department personnel continued to inspect the track circuit.

Because NITCD passenger trains are electrically propelled via a 1,500 VDC catenary system, AC vane relays and track transformers are employed as track devices for train detection. Since the track relay is located at the east end of the track circuit, it was determined that a foreign source of alternating current must have been energizing the track relay when shunts were placed west of the rail break. Initially, all adjacent track circuits were deenergized to determine if the problem was a result of insulated joint failure. Subsequently, the phase angle (instantaneous polarity) of all adjacent track circuits was tested to assure that adjacent circuits were 180 degrees out of phase and therefore could not falsely energize 472TR, the relay in question.

To determine if the foreign source of AC energy was from another NICTD AC supply, all NICTD controlled AC circuits were deenergized simultaneously from milepost 44.0 to milepost 52.8 by deenergizing the local 2,300 VAC primary system. Track relay 472, however, remained energized under these conditions. It was discovered, however, that the track relay would release when the impedance bond neutral tap was removed at the west end of track circuit 472.

The area surrounding track circuit 472 is primarily used by heavy industry with many sources of alternating current present. It is quite possible that the foreign source of alternating current is the result of differences in ground potential over several thousand feet. This can result in foreign current being developed on NITCD's running rails and can potentially develop voltage between the neutral tap and one rail connection of an impedance bond. This has the net effect of developing an AC voltage parallel to the track relay. See figure 2.

As NITCD cannot possibly locate sources of AC grounds other than those on its own supply, it was found necessary to develop a means whereby the effects

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of foreign AC sources would be negated. To this end, a cut section was installed to shorten track circuit 472. This arrangement presents a higher impedance to a foreign source of energy than does a single, longer track circuit. Furthermore, an adjustment procedure was developed to raise the release value of track relay 472 and cut section track relay A472 to a value more than twice that of the foreign voltage.

Shunt tests and applicable block signal tests were performed upon completion of the modifications to track circuit 472.

25	2/12/1995	NS		Remote		4144	Signal	Chicago, IL	N
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At approximately 5:30PM, Train No. LC29 was prepared to head off the Pullman Branch eastbound through Pullman Junction. Signal 16RF was the governing signal for this move, and the crew reported they observed it displaying SLOW APPROACH (Yellow over Red for this dwarf signal). The engineer proceeded on this signal indication into the plant at Pullman Junction, but stopped the move when he and the conductor observed the power switches were lined against the move. The move was stopped short of any switch. After reporting the incident to the operator at Cummings, the train received permission to make a reverse movement on the Pullman Branch to where they cleared the "OS." The operator had stated that he had never lined the signal for LC29's move. Once they cleared the "OS," the crew still observed the same signal aspect displayed on 16RF. They got off the engine and shaded the signal and observed that the signal was displaying STOP (a single Red).

Signal personnel were called to investigate. On arrival, the signal was properly displaying a STOP indication, however the sun had begun to set and was not affecting the signal. Other operational tests were performed with no exceptions taken. The signal was taken out of service until the phantom signal situation could be investigated with proper sunlight conditions.

The following day a complete locking test was performed at Pullman Junction along with ground tests and applicable meggering and relay tests. Again, no exceptions were found. With sunny conditions available, sight tests were performed between 5:00 PM and 6:00 PM and the presence of a phantom aspect was confirmed. 16RF is a 2 position colorlight dwarf signal designed to display a STOP or RESTRICTING aspect (Yellow on top, Red on bottom). The sun was shining directly into the signal and made it appear to display Yellow over Red when only the red unit was energized. It took the installation of three (3) phankill devices to remove the phantom aspect. The signal was returned to service in that condition.

455	2/15/1995	SP	CTC			1LAPCX1-14	Signal 1620	Richvale, CA	N
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On February 15, 1995 at approximately 2:00 PM, Engineer operating train no. 1LAPCX1-14 traveling east, reported that signal 1600 displayed a Green aspect and signal 1620 displayed a Flashing Yellow for 15 or 20 seconds before it turned hard Yellow. The next signal ahead 1652 displayed Red.

Under the direction of the Signal Engineer, the signal system was removed from service and thoroughly tested. The data from the recorder module at signal 1620 was also reviewed. The tests and the data from the recorder both indicated that the signal system was working as intended with no exceptions.

The signal system was restored to service on February 15, 1995 at 5:45 PM.

456	2/16/1995	CR	CTC			Train HLP21B, Engi	Signal 113N	Keating Summit, PA	N
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Engineer on HLP 21B observed an APPROACH aspect on signal 113N with HBBU-6 occupying the block. Cause was large metal build up on contacts 16/17 of the 1NTR relay, which allowed false energy on the 1NTFP circuit. Metal build up was caused by diode which was shorted, across coils of 1NTFPR relay. Shorted diode and iNTR relay removed from service and replaced. Signal system was tested and placed back in service.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
458	2/17/1995	CP	CTC			8654	RTR	Signal 139.2	N
<p>On February 17, 1995 at approximately 1630 CNW south bound train no. 8654 was located at south end of siding Farmington and reported signal 28R at the Farmington holding signals had cleared from Red to Yellow to Green for about 15 seconds and returned to Red while CNW southbound train 8018 was in 2nd block ahead.</p> <p>Upon investigation, it was determined when CNW train 8018 had passed signal 139-2, the directional stick relay had picked to allow a clearing code to generate to the rear causing signal 28R to display an APPROACH aspect and immediately after passing signal 139-2, the train lost shunt allowing a clearing code to be generated back to signal 28R causing signal 28R to display a CLEAR aspect for about 15 seconds. Possible cause found to be RT track circuit was not adjusted properly causing track circuit to pick up momentarily under the train.</p> <p>Corrective Action: All track circuits between Rosemount and Comus will be inspected for adjustment and assure shunting with .06 ohm shunt.</p>									
457	2/17/1995	SP	CTC			ASBTQ K16	Signal 2281	Stuttgart, AR	N
<p>On February 17, 1995 at approximately 7:27 PM, Engineer operating train no. ASBTQ K16 traveling west, reported that signal 2281 went from Yellow to Yellow over Yellow while home signal at east end of Stuttgart was Red.</p> <p>The Signal Department was notified on February 22, 1995 at 2:30 PM. Under the direction of the Signal Supervisor, the signal system was immediately removed from service and thoroughly tested. Tests could not reproduce the problem and showed the signal system to be working as intended with no exceptions. However, as a purely precautionary measure, the coded line overlay equipment (CAO) which controlled the bottom head was replaced by a double wire double break line circuit.</p> <p>The signal system was restored to service on February 22, 1995 at 8:30 PM.</p>									
460	2/20/1995	SP	CTC			1DVROM 20	Signal 6767W	Rio Xover, CO	N
<p>On February 20, 1995 at approximately 10:25 PM, Engineer operating train no. 1DVROM 20 traveling west, reported that he had a Yellow at signal 6745W approaching Rio and the next signal 6767W at Rio initially appeared to be Green, but as they came around the curve and observed the signal from a different angle, they saw it was Red over Red as intended.</p> <p>Under the direction of the Signal Maintainer, the signal system was removed from service and thoroughly tested. The train crew was also interviewed. Tests showed the signal system to be working as intended with no exceptions. However, it was revealed that a yard light at Rio which was recently restored to service could be mistaken for a Green signal aspect when viewed from a certain location.</p> <p>The light in question was turned off to eliminate the problem. The next day, the light cover was painted to keep crews from seeing it.</p> <p>The signal system was restored to service on February 21, 1995 at 4:05 AM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
462	2/21/1995	ATSF	CTC			829	Relay	Winslow, AZ	N
<p>Approximately 4:20PM, February 21, 1995 train crew on the H-KCBA1-20 reported westbound intermediate signal 2861 displayed Green over Green aspect for their train as they were departing Winslow. Signal Department was notified and on arrival found signal 2861 displaying a Yellow over Green aspect with the next westbound signal at West Winslow Red. The investigation determined that a vehicle had hit the signal instrument house causing the 1ALGR relay to lay on its side allowing the 2861 signal to display Yellow over Green instead of Yellow. The relay was returned to its normal position and the signal system was tested to prove proper operation.</p>									
11	2/21/1995	CSXT	CTC			Train R322-21	None	Plymouth Road, MI	N
<p>On February 21, 1995, at 1:15 p.m., Train R 322-21 reported they had a CLEAR indication on eastward absolute signal at Plymouth Road, and a STOP indication at the intermediate in advance, with train ahead in block. This route was not requested.</p> <p>Signal system was removed from service. Signal personnel performed all operational tests. Incident could not be duplicated. Signal system was determined to be functioning as intended, and signal system returned to service.</p>									
461	2/21/1995	SP	CTC			1ASROM1 17	Signal 2963R	West Belden, CO	N
<p>On February 21, 1995 at approximately 12:25 PM, Engineer operating train no. 1ASROM1 17 traveling west, reported that they had a Flashing Yellow on signal 2921 and a Yellow on signal 2945 at East Belden, but found that the repeater signal 2963R at West Belden was dark. The crew was unable to stop the train and ran through the west switch at Belden which was lined reverse.</p> <p>Under the direction of the Signal Engineer, the signal system was immediately removed from service for repairs to the power switch and thorough testing. Test showed that signal 2963 was dark due to a burnt out lamp, the 2963R was Flashing Red, the 2945 at East Belden was Yellow and the 2921 was Flashing Yellow. All tests showed the signal system to be working properly with the exception of the burnt out lamp. However, the next day we found that the sun was washing out the Flashing Red aspect on signal 2963R, so the lenses were replaced, the signal was realigned, and a sun shield (or sunhood) was installed to block the sun off the colorlight signal.</p> <p>The signal system was returned to service on February 21, 1995 at 6:45 PM.</p>									

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463	3/1/1995	SP	CTC			1EUC1Q-K28	Signal 3111	E. Sims, CA	N
<p>On March 1, 1995 at approximately 12:53 PM, Engineer operating train no. 1EUC1Q-K28 traveling west, reported that signal 3111 at East Sims displayed Red over Yellow; the correct aspect under the existing conditions should have been Red over Dark.</p> <p>Under the direction of the Signal Supervisor, the signal system was placed at STOP. Signal personnel inspected the system and found that the improper aspect was caused by a line wire wrap which occurred during a heavy rain storm. Tests showed that the slide fence repeater relay failed to slot the 3111B head thus causing signal 3111 to display Red over Yellow.</p> <p>The wrapped line wire was cleared, and the circuit was corrected to slot the head of signal 3111B thru the slide fence repeater. The signal system was tested and found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on March 1, 1995 at 2:00 PM.</p>									
464	3/2/1995	AMTK		Remote		3837	Signal 10R	San Francisco, CA	N
<p>On March 2, 1995 the C&S Department in San Jose, CA was notified of a non conforming signal on the 10R signal at Portrero Interlocking in San Francisco, CA. The report stated that the engineman of Southern Pacific 3837 received a Yellow over Dark (APPROACH) in lieu of a Red over Green (DIVERGING CLEAR) when he made a diverging move over number eleven switch reverse at Portrero Interlocking. Investigation revealed that the original 1959 signal design by Southern Pacific allowed movement against current of traffic on number one track without checking the position of the switches permitting movement against current of traffic. This permitted an APPROACH aspect to be displayed with number eleven switch reverse in lieu of a diverging signal. The circuit has been disabled pending redesign, and all aspects have been checked and the signal system now functions properly.</p>									
26	3/4/1995	NS	CTC			6598	Human Error	Stockbridge, GA	N
<p>Train No. 230 was northbound at Milepost 169.811, the first intermediate signal north of Stockbridge control point, where they observed a CLEAR signal indication. Aware of the presence of another northbound train in the block ahead, they contacted the dispatcher and were instructed to take the 169.8H signal as displaying RESTRICTED PROCEED. The next signal, intermediate 166.8H, was displaying RESTRICTED PROCEED when they came in sight of it. The train ahead, No. 140, had been in the block just past this signal when No. 230 observed the CLEAR indication at 169.8H.</p> <p>Signal personnel were in the process of repairing a severely vandalized signal bungalow at Pless, Milepost 164.5H. Because of damage to the signal system at Pless, northward signals were not available leaving the next control point south (Stockbridge). To expedite train movements, signal personnel were stationed at the 166.8 signal with an ElectroCode test set temporarily feeding signal codes into the location as if they were coming in from Pless. Through a lack of communication, the temporary arrangement was configured to give false proceed indications to northbound trains. The temporary arrangement was removed and the signal system returned to normal service after testing as required following the restoration of Pless bungalow.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
465	3/10/1995	SP	AB			1CHLBT1-07	Signal 15329	Vaughn/Leoncito, NM	N
<p>On March 10, 1995 at approximately 3:00 AM, Engineer operating train 1CHLBT1-07 traveling west, reported that signal 15329 was Green and the next signal 15319 was Red for no apparent reason, with no train in the block.</p> <p>The Signal Maintainer investigated and found that the single arm semaphore signal 15329 was Green but the single arm semaphore signal 15319 was Red due to a defective motor. He made repairs and tested signals, and returned signals to service at 9 AM on March 10, 1995. Signal 15319 was converted to a colorlight signal on March 16, 1995 to prevent any future reoccurrence.</p> <p>(NOTE: Signal 15319 had also experienced a similar failure on February 8, 1995)</p>									
466	3/11/1995	ATSF	CTC			79	Trap Ckt	Kansas City, MO	N
<p>Approximately 9:30 PM, March 11, 1995, Traffic Control Operator tried to clear westbound signal (54R) BN crossing over the 63 switch reverse. Then stacked a route to clear the eastbound signal (54LA) over the 63 switch normal. Signal (54R) would not clear and the GWRR switch engine was authorized to flag the Red (54R) signal. While the GWRR switch engine was flagging over dead section of the BN crossing frog, the 63 switch moved to normal position. Investigation by Signal Department determined the 53 trap circuit is not effective unless signal is cleared over the crossing frog dead section. As a temporary measure of protection, instructions were issued to the Traffic Control Operators to provide manual protection for similar type switching moves until circuit design changes can be installed that will provide route locking over the crossing frog regardless of position of the control signal.</p>									
467	3/12/1995	ATSF	CTC			876	Circuit Design Error	Barstow, CA	N
<p>Approximately 10:20AM, March 12, 1995, train crew on the S-LBNY5-11 reported eastbound control signal (2RA) West D yard was Green and next signal eastbound control signal (2RA) East D yard was Red. Signal Department was notified of condition reported and since all information of routes that were established at time of reported incident was not made available to the investigating team, the first effort to find reported problem was inconclusive. Further review of circuit plans and with additional information of exact routes established at reported time of incident, the reported signal condition was reproduced. Investigation revealed that a circuit design error was the cause of the reported incident. Recent circuit design change to provide compliance with FRA Rule 236.23 created the false proceed signal condition. Normal in service testing would not detect this condition, because it involved a route not under test. Circuit design error was corrected and signal system was tested to prove proper operation.</p>									
469	3/14/1995	ATSF	CTC			5156	None	Bandini, CA	N
<p>Approximately 8:45AM, March 14, 1995, crew on the M-BALA1-12 reported their train was sitting on North track waiting for eastbound train that was crossing over from North track to South track and observed the westbound control signal (4L) was changing from Red to Yellow and Red to White while the eastbound train was passing under the signal bridge where the (4L) signal is mounted. Signal Department was notified and made inspection and operational test of signal system in question. All signal tests concluded signal system operating properly. The signal supervisor interviewed the conductor on the M-BALA1-13 train, conductor stated the signal aspects appeared to be more like a reflection or phantom signal condition than a true signal aspect. As a temporary preventative measure the clear outer signal lense were removed from both westbound signals until non-reflective outer lenses are received from the supplier. This is being reported as a phantom signal incident.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
468	3/14/1995	PATH	AB				Signal 500	Tunnel D, Jersey City, NJ	N
<p>A CLEAR signal was displayed at signal 500 before 502T was occupied long enough to guarantee safe train speed. No block protection or other safety features of the signal were compromised.</p> <p>An unwired relay contact was found bridging 5H-5B of 502TP, falsely applying energy to the 502TER relay. The contact was moved and circuits and systems in the area were tested. Signals were found operating as designed. The two employees most recently in the room (February 7, 1995) were interviewed. While no guilt can be positively established, procedures for energizing relays during testing and maintenance were reviewed with these employees.</p>									
38	3/14/1995	UP	APB			UP3148	Switch Circuit Controller	Amelia, Texas	N
<p>On March 14, 1995, at 15:00 (CDT), eastbound UP3148 on the Beaumont Subdivision observed eastbound Signal H450 Green with west end of Amelia Yard lined against them.</p> <p>An investigation revealed the switch circuit controller connecting rod had fallen off due to worn threads in the socket assembly.</p> <p>The socket assembly was replaced on the switch rod, and a switch inspection was done. The signal system was restored to proper operation.</p>									
470	3/21/1995	WC	AB				Signal 161R	Junction City, Wisconsin	N
<p>Signal 161R reported CLEAR for 5 to 7 seconds with train occupying block. Unable to duplicate or find any cause.</p>									
12	3/23/1995	CSXT	CTC			Train P24923	None	Baltimore, MD	N
<p>On March 23, 1995, at 8:16 a.m., westbound passenger train P24923 reported westbound signal off Mare Lead No. 22 went from LIMITED CLEAR to LIMITED APPROACH; signal should not have gone to LIMITED CLEAR.</p> <p>Signal system was removed from service. Signal personnel performed all operational tests and incident could not be duplicated. Signal system was determined to be functioning as intended; and signal system has been returned to service.</p>									
471	3/27/1995	CNW	AB			SPMPA 6850	143ATR	Peoria, IL	N
<p>On 3/27/95 at approximately 1500 hrs. SPMPA reported southbound signal #143 Green with cars parked in the block south of the signal.</p> <p>Investigation revealed that vandals had attempted to knock over an instrument case at MP 72.8 by rocking it back and forth. The track relay and others were dislodged from their trays and tipped over as a result. This prevented the signal from going to Red. A report (95-9341) was filed with the Peoria Police Dept.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
13	4/2/1995	CSXT	CTC			Train Y20502	None	Plymouth, MI	N
<p>On April 2, 1995, Train Y20502 reported they had a SLOW APPROACH at the eastward absolute signal at the Toldeo Wye with switch lined against their movement.</p> <p>Signal system was removed from service. Signal personnel performed all operational tests. Incident could not be duplicated. Signal system was determined to be functioning as intended and returned to service.</p>									
472	4/3/1995	KCS	AB			????	????	Shreveport, LA	N
<p>Mr. David Green (FRA OP) reported that a trainmen had reported that signal no. 5549 at MP-554.95, Shreveport Subdivision, was Yellow with some carssetting beyond the signal. Time, date, engineer, train number or consist are unavailable. All applicable tests were performed at said location and condition could not be reproduced. The following individuals were involved in the testing of the system: Signal Supervisor, Signal Inspector, Signal Maintainer, and FRA Inspector.</p> <p>See attached list of some of the tests performed.</p>									
473	4/5/1995	ATSF	AB			3850	Wiring Error	Athos, AZ	N
<p>Approximately 6:20AM, April 5, 1995, crew on the Q-R1AL1-03 reported as they were on the Athos siding approaching the leave siding signal at the east end of Athos to wait for Amtrak No. 4 to pass on the south main track, the leave siding signal displayed a Green aspect. Signal Department personnel were notified and their investigation of the reported incident verified the condition as reported. Further investigation determined that a wiring error had been made while changing a two-point relay to a four-point relay the day before and proper tests were not conducted to prove correct operation of the signal system. The wiring error was corrected and tests were conducted to prove proper operation of the signal system. Responsibility for the wiring error has been determined and discipline will be assessed.</p>									
474	4/5/1995	SP	AB			1LBDAT1-03 East	Signal 538	E.E. Winchester	N
<p>On April 5, 1995 at approximately 2:50 PM Engineer operating train 1LBDAT1-03 traveling east, was in siding to meet train 1MBSMF2-04. Engineer reported that signal 538 was Green instead of Red after the 1MBSMF2-04 entered the block for signal 538 at MP 66.7 west of Giddings.</p> <p>Under the direction of the Signal Supervisor, the signal system was placed at STOP. It was discovered that a tree branch, broken by high winds, had fallen on the line wires, causing the 20H and 38H wires to wrap, thus making signal 538 indicate Green instead of Red with the block occupied.</p> <p>The tree branch was removed. The signal system was thoroughly tested and found to be working as intended with no exceptions. The signal system was restored to service on April 5, 1995 at 7:45 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
475	4/6/1995	CNW			ATC	BOMVY	Sig. 210 - Insulated Joints	Ogden, IA	N
<p>On 4/6/95 "BOMVY" working at Ogden, IA entered the eastbound main (Trk 2) and observed the eastbound approach signal to the Boone bridge (#210) to be Red with his cab signal showing CLEAR. Investigation revealed both insulated joints at Sig. 210 had failed due to failed metal flow over the top. Normal reverse polarity design on the feed wires caused the signal to go to Red as intended however the 100 cycle train control fed past the insulated joints from the block ahead. Remedied by replacing one insulated joint and slotting the other.</p>									
476	4/10/1995	SEPA	CTC				Open wire - pole line	100' N of Sig. 501, MP 1.0 Warminster Line	N
<p>Nature of Failure: Engineer reported passing signal 501 displaying APPROACH MEDIUM and approaching next signal, signal 41A, displaying STOP.</p> <p>Cause of Failure: Inspection of pole line conditions revealed open line wire conductor 501AD was crossed with open line wire conductor 41AHA thus energizing 501ADR relay. Fault condition was apparently caused by a severe windstorm that passed through the area.</p> <p>Corrective Action Taken: Re-aligned open wire conductors on pole line.</p>									
477	4/13/1995	KCS	CTC			Ext. Military	?	Vidor, TX	N
<p>On 4/13/95 an Extra Military Train was following a Union Pacific Spray Train on Yellows south out of Mauriceville. The crew reported that they had to put the train in emergency just north of Vidor when they realized they were approaching the rear of the UP Spray Train. On 4/17/95 the Signal Supervisor received a report of a false proceed signal #7851 at Mile Post 758.26 as per attached letter. All applicable tests were performed and the condition could not be reproduced. We were unable to get written statements from the train crew concerning the incident. Please find attached the following items, Drawing of the layout of the signals in the block, Statement from the Signal Supervisor concerning the report and follow up, Statement from the Signal Maintainer and Signal Inspector concerning report and test results, Relay test form, and Megger test forms for North Vidor and signal 7581 & 7582.</p>									
39	4/13/1995	UP	CTC	Manual		UP 3316	None	Binney Junction, California	N
<p>On April 13, 1995, at 9:30 (CDT), eastbound UP3316 on the Canyon Subdivision observed eastbound signal at CP F180 was Green with the next intermediate signal 183.0 Red and the track occupied between Signal 183.0 and Signal 185.6.</p> <p>An investigation revealed that circuit revisions had been made at Signal 183.0 without making required corresponding revisions at CP F180. Circuit revisions were made at CP F180 restoring the system to proper operation.</p> <p>All applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
478	4/15/1995	SP	CTC			1LAPCX2-15	Signal 142RA	East End of Fagan, CA	N
<p>On April 15, 1995 at approximately 4:30 PM, Engineer operating train 1LAPCX2-15 traveling east, reported that signal 142RA at east end of Fagan was Green and the next signal 1572, although dim and hard to see, did display a Red aspect.</p> <p>Under the direction of the Signal Supervisor, the signal system was placed at STOP for testing. Tests revealed that the battery at signal 1572 was low and that the commercial power was off due to a blown circuit breaker. The battery voltage was high enough to energize the 142RAH polar relay at Fagan but not enough to energize the head relay in signal 1572.</p> <p>A new circuit breaker was installed and power was restored. The signal system was thoroughly tested and found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on April 15, 1995 at 5:30 PM.</p>									
479	4/18/1995	CR	AB			Train UCI-18A, Engi	Signal 29.2	Shire Oaks, PA	N
<p>Engineer on train UCI-18A reported automatic signal 29.2 displayed a CLEAR aspect with 2S at CP Oak displaying Dark over Red. Problem was determined to be incorrect circuit design of the 292TATN and 292TATB track circuit selection through the 2S ALOR. Circuitry was corrected and signal system tested and restored to service.</p> <p>Investigation being conducted to determine responsibility.</p>									
14	4/20/1995	CSXT	CTC			Train U23917	None	Jemison, AL	N
<p>On April 20, 1995, Train U23917 reported they received a CLEAR signal at South Jemison up to a Red signal at North Jemison. Train U23917 did overrun Red signal at North Jemison.</p> <p>Signal system was removed from service. Signal personnel, along with the FRA, performed all operational tests. The incident could not be duplicated. Signal system was determined to be functioning as intended, and was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
27	4/25/1995	NS	AB			UP2532-4261-3151	Human Error	Rossville, TN	N
<p>At approximately 2:00 PM, Train No. 391, running westbound, observed the westward signal at the east end of Rossville siding display CLEAR. The next signal which was at the west end of Rossville displayed STOP as it should have because an eastbound train, No. 364, was approaching on the single track ahead. Train No. 391 was expecting to stop short of the switch at the west end of Rossville in order to meet No. 364, so a normal stop was made.</p> <p>The false proceed was reported to the dispatcher, and signal personnel were called to investigate. The incident was recreated and was discovered to be caused by the improper presence of a full wave rectifier between the polar output of the electronic track device and the polar HD relay for the involved signal. This device, an HP-1, caused the polar HD relay to be picked in the "normal" position with either positive or negative polarity feeding out of the ElectroCode HD terminals. The HP-1 was removed, proper testing performed, and the signal system was returned to service.</p> <p>The HP-1 was intended to provide neutral polarity from a polar HD source on another ElectroCode cabinet. The HP-1 had been removed by the maintainer while troubleshooting a problem about two weeks prior to this incident. Following the troubleshooting the HP-1 was installed on the wrong Electrocode cabinet by mistake and the error was not detected until the incident in question.</p>									
40	4/27/1995	UP	CTC		ACS	CNW 6933		Keith, Nebraska	N
<p>On April 27, 1995, at 03:50 (CDT) westbound ELNP on Track No. 1 on the Council Bluffs Subdivision reported that the westbound signal at CP B276 was Yellow into an occupied block.</p> <p>An investigation revealed that a loose piece of solder bridged a contact and falsely energized the 1COTESER relay allowing a Yellow signal with a train ahead in the block.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
480	5/1/1995	SP	CTC			1DWHLE 01	Signal 619	Frazer, CO	N
<p>On May 1, 1995 at approximately 7:40 PM, Engineer operating train no. 1DWHLE 01 traveling west, reported that signal 619 at east end of Frazer was CLEAR, then suddenly went Red/Red in their face.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. In addition, computer room reviewed tapes and found no control sent to that location or no indication of CLEAR signal from East Frazer.</p> <p>The signal system was restored to service on May 1, 1995 at 11:59 PM.</p>									
481	5/2/1995	CR	CTC			Train TVLA2, Engin	Signal 1812W	Fonda, NY	N
<p>Engineer on train TVLA2 reported signal 1812W displayed APPROACH Medium aspect with 4W at CP184 at STOP. Cause was found to be jumper wires applied to Master Decoding Transformer limiting resistors, which applied increased energy to the decoding units. This caused 120 Decode Unit to respond to 75 code rate. Jumpers were removed, circuitry tested and signal system restored to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
482	5/4/1995	ATSF	CTC			526	Underground Cable	Near Lucy, NM	N
<p>Approximately 5:11 AM, May 4, 1995, crew on the S-KCLB5-03 reported they were lined westbound into the siding at the east end of Lucy with a Red over Green aspect at control signal (L) and the approach signal 8261 displayed Green instead of Flashing Yellow for their train. Signal personnel were notified and their investigation of the reported incident verified the condition reported. Further investigation determined that a contractor installing an antenna tower for radio control of the CCT control point, had driven a ground rod through the underground cable that runs from the instrument house to the westbound control signal (L) at the east end of Lucy. This condition provided a cross path for the B10 battery conductor and the LAHDP conductor. The LAHDP is the pole change circuit for approach signal 8261. The underground cable was repaired temporarily and signal system tested to prove proper operation. Later the same day (5/4/95) the damaged underground cable was replaced and signal system retested.</p>									
483	5/11/1995	SP	CTC			SP 1WCKCQ-11	Signal 208RA	Garnet, CA	N
<p>On May 11, 1995 at approximately 11:05 PM, Engineer operating train no. 1WCKCQ-11 traveling east on the Main Track at Garnet, reported that signal 206R at the west end of the South siding was Yellow. The next signal 208RA at the east end of the North siding was Yellow then changed to Flashing Yellow. The next signal 210RA was Red. The incident occurred during a sand storm.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly tested. It was revealed that line wires 206RAH and N206RAH had gone slack, causing them to intermittently touch when blown by high winds, thus causing the line series relay to pick up and drop, turning the signal light on and off and giving it the appearance of a Flashing Yellow aspect.</p> <p>The line wire was tightened. The signal system was thoroughly tested and found to be working as intended with no exceptions. The signal system was restored to service on May 12, 1995 at 12:30 AM.</p>									
484	5/14/1995	SP	CTC			BN 1BN681-13	Signal 316LB	E.E. Algoma, OR	Y
<p>On May 14, 1995 at approximately 6:06 AM, BNRR crew (Engineer, Student Engineer, Conductor), operating BNRR train 1BN681-13 traveling west, reported to have entered the east end of Algoma siding with the facing signal displaying Red over Yellow, and while proceeding west on the siding, collided with the rear of Southern Pacific train 1CORVM-14 which was stopped in the siding.</p> <p>Under the direction of the Signal Supervisor, train dispatcher WS66 was asked to duplicate the conditions under which the BN train 1BN681-13 entered the siding. When the switch at E.E. Algoma was reversed and the westbound was cleared into the siding, the facing signal displayed Red over Lunar. This test was repeated several times always with the same result.</p> <p>The signal system was thoroughly tested and the pole line between East and West Algoma was also inspected. All tests showed the signal system to be working as intended with no exceptions.</p> <p>The signal system was restored to service on May 15, 1995 at 4:30 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
485	5/21/1995	SP	CTC			SP 1WCHOQK-21	Signal 116R	Loma Linda, CA	N
<p>On May 21, 1995 at approximately 11:45 PM, Engineer operating train no. 1WCHOQK-21 traveling east on the No. 2 track reported that as he went by signal 116R, the signal was Green. The train then passed into the block between signal 116R and signal 126R and stopped to cut in a helper engine on the rear of the train. The train then proceeded towards signal 126R at Redlands Xover and found the 126R to be Red over Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly inspected and tested with the train still in the block. Repeated tests revealed that signal 116R must have indicated a Yellow aspect when the train went by it. All tests showed the signal system to be working as intended with no exceptions.</p> <p>The signal system was restored to service on May 22, 1995 at 10:05 AM.</p>									
486	6/3/1995	CR		Manual		Train JR-7, Engine	Signals 10RA and 6R	"Upper Bay" Newark, NJ	N
<p>Engineer on train JR-7 reported signal 10RA displayed RESTRICTING while train OI-21 was occupying a conflicting route governed by signal 8R. In addition, signal 6R was displaying RESTRICTING simultaneously with signal 10RA. Cause was determined to be high double case at location 2W was blown over by high winds and rain, causing 6RBHB and 10RAH relays to be inverted. Case support brackets were repaired and case placed on foundations, signal system tested and returned to service.</p>									
487	6/14/1995	CR		Remote		Train YPAL-22, En	Signal 4E @ CP-JU	Bethlehem, PA	N
<p>Engineer on train YPAL-22 observed signal 4E at CPJU displaying an APPROACH SLOW aspect with signal 5R at CP Bethlehem displaying RESTRICTING. Cause was found to be crossed conductors, 5RCHD and 5RCGP circuits, in cable from 5RC signal mechanism to case at CP Bethlehem. Cable repaired, signal system tested and returned to service.</p>									
41	6/16/1995	UP	AB			UP6317	Switch Circuit Controller	Stanton, Texas	N
<p>On June 16, 1995, at 10:55 (CDT) westbound FWEP16 on the Baird Subdivision reported a Green westbound signal at the east end of Stanton with the switch reverse at the west end of Stanton.</p> <p>An investigation revealed the switch circuit controller at the west end of Stanton had bad roller and tension springs that, under vibration, would lose the "shunt circuit" with the switch in a reverse position.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
488	6/17/1995	ATSF	CTC			UP 5055	Track Relay	Near Keenbrook, CA	N
<p>Approximately 8:19 PM, June 17, 1995, crew on the (UP) F-CNYR1-17 reported intermediate signal 672 was Yellow as they passed signal and upon approach of next intermediate signal 642 they observed an eastbound train with approximately six or seven cars in their block. Signal personnel were notified and their investigation of the reported incident verified the condition reported. Further investigation determined that with standard .06 ohm shunt (2ATR) track relay would de-energize but signal control circuit stayed energized. The track relay was found to have moisture on the contacts allowing signal control circuit to be energized with track relay in the de-energized position. The track relay was replaced and signal system tested to prove proper operation. All other relays in the instrument case were inspected and found to be moisture free. The defective track relay will be returned to US&S for their investigation to determine how the moisture was allowed to enter the sealed relay</p>									
489	6/17/1995	SP	CTC			SP 1CXPMM-17	Signal 2521	Altheimer, AR	N
<p>On June 17, 1995 at approximately 11:15 AM, Engineer operating train No. 1CXPMM-17 traveling west, reported that signal 2521 was Green and the next signal 260LA, at East End of Altheimer, was Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly inspected and tested. Every test performed indicated that signal 2521 must have indicated a Yellow not a Green. The signal system was shown to be working as intended with no exceptions.</p> <p>The signal system was restored to service on June 17, 1995 at 4:30 PM.</p>									
15	6/19/1995	CSXT	CTC			Train R69718	Vandalism	North Rocky, TN	N
<p>On June 19, 1995, Train R69718 reported a MEDIUM APPROACH at North Rocky, TN. This route was not requested. Train crew reported vandals shooting firearms at signal housing; Train Dispatcher removed signals from service.</p> <p>Signal Department personnel investigated incident and discovered vital signal cable and extensive damage from vandalism.</p> <p>Signal personnel completed repairs and made all operational tests. Signal system was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
490	6/21/1995	SP	CTC			SP 1ZIWCM-21	Signal 32RB	Marne, CA	N
<p>On June 21, 1995 at approximately 5:45 PM, Engineer operating train no. 1ZIWCM-21 traveling east, reported that while waiting in a siding, he observed signal 32R, 1/4 miles away, and noticed that the bottom head (the 32RB) appeared to intermittently change from Red to Yellow instead of remaining Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly inspected and tested in conjunction with the dispatch center. All tests showed the signal system to be working as intended with no exceptions.</p> <p>It should be noted, however, that at the time of the incident, a westbound train carrying a number of bright orange trailers was passing under the 32R cantilever, and the reflection of the afternoon sun upon these orange trailers might have washed out the Red aspect as each trailer passed by the signal, thus giving the illusion of an intermittent Red and Yellow,</p> <p>The signal system was restored to service on June 21, 1995 at 9:00 PM.</p>									
16	6/22/1995	CSXT	CTC			Train R220	None	CT, Cincinnati, OH	N
<p>On June 22, 1995, Train R220 alleges having a CLEAR signal at CT just prior to running through switch lined against his move.</p> <p>Signal system was removed from service; signal personnel investigated the incident performing all operational tests. The incident could not be duplicated. Signal system is returned to service.</p>									
491	6/28/1995	SP	CTC			SP Helper	Signal 164RA	Pershing, CA	N
<p>On June 28, 1995 at approximately 2:45 PM, Engineer operating SP Helper Engines traveling east, reported that signal 164RA at the West End of Pershing was Green and when the next signal 166RA at the East End came into view it displayed Red. Signal 164RA should have displayed Yellow.</p> <p>Under the direction of the Signal Supervisor, the signal system was removed from service and thoroughly inspected and tested. All tests showed the signal to be working as intended with no exceptions. The Digicon replay from the Denver computer room corroborated the finding that signal 164RA was Yellow.</p> <p>The signal system was restored to service on June 28, 1995 at 6:20 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
492	6/29/1995	SP	CTC			SP 1ARCKC-29	Signal 272	Plain, CO	N
<p>On June 29, 1995 at approximately 12:48 PM, Engineer operating train no. 1ARCKC-29 traveling east, reported that he observed that signal 272 approach to West Plain was Flashing Yellow and he then found the eastward absolute signal at West Plain Red and overran it.</p> <p>The Signal Engineer and Signal Supervisor investigated and found that the battery was low due to an open fuse in the AC powerline. They found that a battery voltage of about 6.2 volts would cause the 72S relay to pump causing the signal to display a Flashing Yellow aspect until the battery dropped to about 5.2 volts where it went to STOP.</p> <p>The signal system was thoroughly tested and no other problems were found. We have continuously lighted the signals to prevent a reoccurrence of this problem with the approach lighting circuit.</p>									
17	6/30/1995	CSXT	CTC			Train Q31728	Signal 2001	Keyser Station, WV	N
<p>On June 30, 1995, Train Q-31728 reported receiving two Yellows and a marker at Signal 2001 with crossover at Keyser Station line from #1 to #2.</p> <p>The signal system was removed from service. Signal personnel performed all operational tests and discovered the RE circuit was lodged with the YE circuit. Repairs and additional operational checks were made.</p> <p>Signal system is not functioning as intended and is returned to service.</p>									
493	7/4/1995	SP	CTC			SP 1LBCXT-02	Signal TS	E.E. Paisano, TX	N
<p>On July 4, 1995 at approximately 11:45 AM, Engineer operating train no. 1LBCXT-02 traveling east on the Paisano siding, reported that at 3000 feet from the East End of the siding, signal TS appeared to be Green; but as he got closer, to about 1000 feet of the end of the siding, he saw that the signal was indeed Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was put to STOP and thoroughly inspected and tested, and was found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on July 4, 1995 at 5:00 PM.</p> <p>The Signal Supervisor returned to the location the next day, at the same time, to monitor the signal in question and found that there could have been a reflection problem from the underside of the hood. This was corrected and a 30 degree spread lens was installed to improve the visibility of the signal across the curve.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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494	7/6/1995	IHB		Manual		IHB 9206, 9209	Signal 15-16	Dolton, IL	N
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At approx. 0615 am, Thursday, July 6, 1995, IHB train BA-2, Engine 9206 was proceeding eastbound from the IHB Blue Island Yard, Riverdale, IL, on Track 2 when the train passed absolute signal 15-16 in the STOP position at Dolton Interlocking, Dolton, IL. Absolute signal 15-16 is a three unit searchlight signal with GRS Type SA mechanisms.

The IHB engineer stated that he had observed signal 15-16 after passing the ICG overhead bridge and that signal 15-16 was displaying a Red/Red/Yellow aspect for a RESTRICTING indication and was proceeding through the interlocking at Restricted Speed when he was asked where he was going by the Dolton Tower Operator and told to stop his train.

The IHB Conductor was in the trailing unit, IHB 9209 and unable to see the aspect displayed by signal 15-16.

The IHB Helper was on the lead unit, IHB 9206, and said the signal 15-16 displayed a Red/Red/Yellow aspect for a RESTRICTING indication.

The Dolton Tower Operator stated that he never lined the signal lever to clear signal 15-16 for train BA-2's move.

Signal 15-16 will display a Red/Red/Yellow aspect for a RESTRICTING indication only for a following move in the eastbound direction.

The lamp voltages were found to be: Signal 15A - 9.6V; Signal 15B - 9.6V; and Signal 16 - 10.2V. No exceptions taken.

The signal lenses, hot spots and cover glasses were found to be intact, clean and properly aligned. All cable meggered clear. No crosses or grounds were detected. All relays and signal mechanisms were within operating specifications. As traffic locking was functioning as intended. No exceptions taken to any items inspected and/or tested.

Signal was observed the next morning at the same time of day under nearly identical weather conditions with no visibility interference from the rising sun detected.

Train crew was scheduled for investigation on Friday, July 14, 1995, but waived investigation and accepted discipline of thirty day suspension.

495	7/7/1995	ATSF		CTC		608W	None	Argentine, Kansas	N
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At approximately 9:53 AM, July 7, 1995, crew on H-SRBA1-07 reported their train sitting on 2 track waiting for an eastbound train that was crossing over from 2 track to 1 track. Crew observed the 4W control signal flash between R/R and Y/Y while the eastbound train was passing under signal. Signal Department was notified and made inspection and operational test of the system in question. All signal tests concluded signal system was operating properly. Subsequent investigation revealed that the signal aspects looked like a reflection or phantom aspect. Special signal hoods are being installed on the bottom side of these signals. This is being reported as a phantom aspect signal incident.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
496	7/8/1995	SP	AB			1LBCHT1-06 East	Signal 16172	Hargis, NM	N
<p>On July 8, 1995 at approximately 7:15 AM Engineer operating eastbound SP train 1LBCHT1-06, reported that he passed signal 16172 on a Green aspect and then found signal 16198 Red and signal 16212 Dark.</p> <p>The Signal Supervisor tested the signal system and found that the battery charger (rectifier) at signal 16212 had failed, causing the battery voltage to drop to about 3-4 VDC. This caused signal 16198 to go Red after the train passed signal 16172. The battery charger was replaced and the signal system was thoroughly tested with no other defects found, and signals operating as intended.</p> <p>The signal system was restored to service on July 8, 1995 at 3:00 PM.</p>									
497	7/12/1995	ATSF	CTC			7161	Circuit Design Error	Mykawa, Texas	N
<p>Approximately 10:19 PM, July 12, 1995, train crew on the F-01756-12 reported eastbound control signal (2R) West End Mykawa was CLEAR and the next signal 2RA at East End Mykawa was Red. Signal Department was notified of condition reported and were able to reproduce the condition. Investigation revealed that a circuit design error was the cause of the reported incident. The circuit design error was corrected and the signal system was tested to prove proper operation.</p>									
498	7/12/1995	SP	CTC			SP 1LBAVT2-11	Signal FM	Sanderson, TX	N
<p>On July 12, 1995 at approximately 10:45 PM, Engineer operating train no. 1LBAVT2-11 traveling east, reported that signal 5196 was Flashing Yellow and the next signal, the FM approach to the West End of Sanderson, appeared Green, but when the train got to about 1/4 mile from W.E. Sanderson he saw that the signal was Yellow.</p> <p>Under the direction of the Signal Supervisor, the signal system was placed at STOP and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. Further investigation found that because of the track's curvature in advance of West End signal, at one point the tracks line up directly with a nearby trailer park, and a green light or neon sign at the trailer park could have been mistaken for a Green signal light.</p> <p>The signal system was returned to service on July 13, 1995 at 5:00 AM.</p>									
18	7/16/1995	CSXT	AB			Train Z49115	Signal 272.1	Campbellsburg, IN	N
<p>On July 16, 1995, Train Z49115 reported the signal at the 272.1 M.P. was displaying a clear signal north and south.</p> <p>The signal system was removed from service. Signal personnel investigated the incident and discovered the control wire for Sycamore Street crossing was wrapped with HD control for Signal 272.1.</p> <p>Line wires were unwrapped, operational tests completed, and signal system was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
499	7/16/1995	HBT		Remote		UP 1619	CL	Houston, Texas	N
<p>Sunday, July 16, 1995, approx. 11:26 AM, PTR A Job 155, lead engine number UP 1619, moving north on Strutt siding, passed ground mount ME color light signal, did not run through any switches or cause any damage. Speed est. at 10 MPH.</p> <p>Signal test made by Signal Foreman and Maintainer included visual inspection of signal to assume no holes in housing to allow sun light in, voltage test on light wires, ground test, voltage test on control wires.</p> <p>No problem found.</p>									
500	7/19/1995	ATSF				3448	Human Error	Kansas City, KS	N
<p>Approximately 12:20 PM, July 19, 1995, train crew on the work train reported signal 176 was displaying a Yellow aspect for their route, and felt it should have been a lunar aspect. Signal Department was notified and their investigation of the reported incident verified the condition reported. Further investigation determined that the H2 head relay of signal 176 had the wrong color roundel in the left position. The H2 head relay was replaced to provide a lunar roundel instead of a yellow roundel. The signal system was tested to prove proper operation. Person responsible for condition found is under investigation so discipline can be assessed.</p>									
42	7/21/1995	UP		Manual		UP5040	None	Fort Worth, Texas	N
<p>On July 21, 1995, at 10:46 (CDT) on the Dallas Subdivision at Tower 55, the northbound home signal at Control Point T756 displayed a Yellow signal, and the westbound home signal on Track No. 2 at Control Point T944 displayed a Yellow signal with westbound LDCV-20 occupying the interlocker on No. 2 track.</p> <p>An investigation revealed the GP relay for the westbound Home Signal at Control Point T944 was tipped over from the case being struck by contractor equipment.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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28	7/25/1995	NS		Remote		Unknown	Design	Spriggsboro, IN	N
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At approximately 4:00 PM, Train No. 308 received and took a DIVERGING CLEAR indication on the eastward signal from the Ft. Wayne District to the Chicago District at the West End Spriggsboro. Their route was lined onto the Chicago District Main Track and in the same plant into the siding. The crew had a STOP indication on the eastward signal at the east end of the siding. The train was stopped before passing the STOP signal, and the crew reported the improper signal they had received at the West End Spriggsboro. Signals at Spriggsboro were kept in STOP position for train movements until the signal system could be verified.

Signal personnel investigated, and found that with the mainline eastward signal cleared at the East End Spriggsboro, the eastward signal off the Ft. Wayne District would display DIVERGING CLEAR instead of the correct DIVERGING APPROACH on a route lined into the siding. The "D" relay for this signal was energized by circuitry for an alternate route.

Signal changes installed earlier in the year had a design error that was not found during cut-in tests on this untypical line-up of signals. The design error was corrected and the interlocking was completely tested before being returned to service.

501	7/25/1995	SP				SP 1LBMFT-24	Signal FM	West Rosenfield, TX	N
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On July 25, 1995 at approximately 6:45 PM, Engineer operating train no. 1LBMFT-24 traveling east, reported that the approach signal to the West End of Rosenfield was Flashing Yellow, that signal FM at the West End was Green and that the next signal, the TM signal at the East End of Rosenfield was Red. The FM signal at the West End should have been Yellow.

Under the direction of the Signal Supervisor, the signal system was placed at STOP and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions.

The signal system was returned to service on July 26, 1995 at 10:00 AM.

502	7/26/1995	SP				SP 1DALAF-25	Signal RA	East Finley, TX	N
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On July 26, 1995 at approximately 7:50 AM, Engineer operating train no. 1DALAF-25 traveling west, reported that the westward absolute signal at the East End of Finley was Green then went Yellow in his face with an eastbound train going into the siding at the West End.

Under the direction of the Signal Supervisor, the signal system was placed at STOP and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions.

The signal system was returned to service on July 26, 1995 at 1:00 PM.

Report #	Date	Reporting Carrier	Block System	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
43	7/26/1995	UP	CTC	Manual		SP FHOCHQ	None	Lennox, IL	N
<p>On July 26, 1995, at 19:16 (CDT) on the Pana Subdivision at Lennox Interlocker, eastbound SP FHOCHQ reported a Red over Green over Red home signal with a trailing point switch lined against them.</p> <p>An investigation revealed the signal circuits were not designed to check trailing point switches in the control network.</p> <p>Circuit plans have been revised and the switch position relay contacts are being installed in the proper control circuits.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
503	8/4/1995	GTW	AB			5858	Block Line	Shaftsburg, MI	N
<p>Severe storm conditions toppled trees into pole line, resulting in damage to signal control wires. On August 4, 1995 at 0200 hours, GTW train 456B, Extra 5858 East reported PROCEED indication (GTW Rule 281) at ABS signal 2312 and PROCEED AT RESTRICTED SPEED indication (GTW Rule 290) at signal 2344. Fallen tree at MP 233.0 forced signal control "H" wire to make contact with signal control "D" wire. Trees in pole line in advance of signal 2344 had broken "H" and "D" wires, causing Red aspect at signal 2344.</p>									
504	8/7/1995	CR		Remote		Train BAL-2AH, En	CP Shocks, Cab Signal at 110L Signal	Shocks Mill, PA	N
<p>Engineer on train BAL-2AH reported cab signal ungraded from RESTRICTING to APPROACH MEDIUM with wayside home signal 110L displaying STOP. Cause was found to be shorted W-10 transformer on 111 track circuit. Transformer replaced, signal system tested and placed back in service.</p>									
44	8/9/1995	UP	AB			PRBME	None	Des Plaines, IL	N
<p>On August 9, 1995, at 12:00 (CDT) on the New Line Subdivision at M.P. 8.8, PRBME reported eastbound signal 22 displaying a Yellow indication with 22's block occupied.</p> <p>An investigation revealed the 22H relay had a burnt contact jumpered around in the signal lighting circuit.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
45	8/10/1995	UP	AB			UP2400	Track Relay	Adair, OK	N
<p>On August 10, 1995, at 11:30 (CDT) on the Cherokee Subdivision while the MOWDWD-10 was switching at the south end of Adair, Oklahoma, the southbound leaving signal at M.P. 454.5 displayed a Green indication with the main line track circuit south of the OS circuit occupied.</p> <p>An investigation revealed the signal being held in a Green position by the track relay for the occupied track circuit having contacts fused in the normally-energized position caused by a lightning strike. The track relay was replaced.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
505	8/11/1995	SP	AB			SP 1KCOAF-09	Signal 7401	Walkinghood, KS	N
<p>On August 11, 1995 at approximately 8:00 AM, Engineer operating train no. 1KCOAF-09 traveling west, reported that signal 7401 at the East End of Walkinghood was CLEAR with the switch at the West End lined for the siding.</p> <p>The signal maintainer found that the shunt wires from the switch circuit controller to the track had been cut off by the switch rod and tie plate, thus eliminating the switch protection.</p> <p>The shunt wires were replaced, and the signals were then found to operate as intended with no exceptions. The signals were placed back in service on August 11, 1995 at 9:00 AM.</p>									
506	8/12/1995	SP	AB			SP 1EPKCT-12	Signal 14174	Three Rivers, NM	N
<p>On August 12, 1995 at approximately 3:50 PM, Engineer operating train no. 1EPKCT 12 traveling east, reported that signal 14174 was Yellow, while the rear of the train ahead no. 1LBCHT1-10 was still in the block.</p> <p>Under the direction of Signal Supervisor J.L. Stevenson, the signal system was thoroughly tested. All tests showed the signal system to be working as intended with no exceptions.</p> <p>The following day, the Division Signal Engineer and the Signal Supervisor made further operational tests and observed the signal at the same time of day for evidence of phantom indication. They found the signal system to be working as intended. They did not, however, that the Electrocode 4 receiver LEDs flashed while being checked for pickup values, so they replaced the Electrocode 4 box and module as a precautionary measure.</p> <p>The signal system was returned to service on August 13, 1995 at 5:55 PM.</p>									
47	8/12/1995	UP	CTC			UP 3598	Relay, Insulated Joint	Pickens, LA	N
<p>On August 12, 1995, at 13:50 (CDT) on the Monroe Subdivision, northbound GSWWEG-11 observed a Green indication from northbound approach signal 435 while northbound signal 433 at the control point indicated a Red over Lunar.</p> <p>An investigation revealed a shorted insulated joint and track relay out of tolerance at Approach Signal 435.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
46	8/16/1995	UP	CTC			UP9191	None	Auburn, WA	N
<p>On August 16, 1995, at 2:48 (CDT) on the Seattle Subdivision at Control Point S162, northbound APSEZ-13 reported northbound signal displayed a Flashing Red over Red with the switch north of the signal out of correspondence.</p> <p>An investigation revealed a problem in the circuit design. Circuits were revised; the signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
507	8/16/1995	WC	AB				Signal 2071	Anton - Weyauwega, Wisconsin	N
<p>Empty hopper train was following a westbound engine with one car at restricted speed. Hopper train observed signal 2071 go from Red to Green for about two seconds and then back to Red. This occurred at the time the engine and car passed signal 2109, the next signal in advance.</p> <p>The passage of the short, fast train by 2109 caused the track circuit in rear of the signal to pick up before the slow release signal YGP had dropped, hence, the brief false clear on 2071. This sequence of events also dropped the directional stick prematurely, hence, 2071 reverted to Red.</p>									
29	8/22/1995	NS	CTC			8883	Resistor	Brandy Station, VA	N
<p>Train No. 342, northbound, passed signal 60.8 which was displaying CLEAR. Conductor and Engineer Trainee looked back and observed that southward signal 60.9 displayed APPROACH while their train was still occupying the 60.9 track circuit.</p> <p>Investigation revealed that the Trakode bleeder resistor, design value of 12.5 ohms, had a resistance of 96 ohms. This was a change in the value of the resistor itself rather than a connection. This high resistance value prevented the resistor from properly acting as a bleeder. With this resistor in place, the 60.9 signal would occasionally display APPROACH when a shunt was placed about 1000 feet south of the signal. Once duplicated, it was evident that the 60.9 track relay would pick up on the negative side with each pulse of the CP relay on the south track. The track currents were found to be normal. The false proceed was not easy to reproduce; several northbound trains were observed without recurrence. Several variable factors were obviously involved in reproducing this incident, presumably train speed, train shunt and track conditions.</p> <p>A proper value resistor was installed to alleviate this situation.</p>									
509	8/24/1995	IC	CTC			GNOCH24, WC174	Signal 2LB	Skip, LA	N
<p>Signal LB displayed a SLOW CLEAR indication for trailing route through turnout reverse, when switch points were normal. Two engines split switch. This incident was called in per FRA 233.5 at 11:40 CDST, 8-24, FRA Rpt#305107.</p> <p>Investigation found that the pin attaching the throw bar to the throw rod broke. When the switch was called reverse the points remained normal. The point detector circuit had voltage of normal polarity, and the KP relay was reverse connecting the RWCR to this normal voltage. Since the RWCR was a neutral relay, it energized.</p> <p>During a previous cutover the original relay (600 ohm biased-neutral) was changed to a 900 ohm neutral relay with more contacts. The tests did not detect the error since the tests did not include mechanical failures, or simulations which disconnect the motor, which prevented the switch points from moving.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
30	8/25/1995	NS		Remote		Unknown	Human Error	Columbus, OH	N
<p>At approximately 4:00 AM, Train No. 195 had set off five cars in the west end of the Middle Track at Bannon but did not return the derail to derailing position when they left. No. 195's crew asked Train No. L78's crew to replace the derail for them when they came west. No. L78 came out of the intermodal ramp and proceeded west on the Westbound Main. No. L78 had a CLEAR indication at the west end of the Middle Track which was the signal protecting the electric lock switch to the Middle Track. With the derail left off, this signal should not have cleared.</p> <p>Signal personnel investigating the incident determined that the Middle Track derail was not setting signals to STOP when in the reverse position. The cause was found to be that during a recent construction project the "OS" track wires that had fed through the derail controller box had been replaced with new wires that went directly to the track. There was no evidence on the circuit plans that the track wires had gone through the derail, so the construction forces assumed that the derail was not involved in the work they were doing. The track wires were rerun and broke back through the derail circuit controller to correct the problem.</p>									
508	8/25/1995	SP		CTC		Amtrak No. 6	Signal 7274	East Riverton, UT	N
<p>On August 25, 1995 at approximately 7:00 AM, Engineer operating Amtrak train no. 6 traveling east, reported that signal 7274 at the East End of Riverton displayed Green over Yellow on the same signal head, when signal should have been Green.</p> <p>The Signal Maintainer inspected the signal system and found that behind the cable board, in the junction box, the HG and DG wires were pinched together and shorted, thus causing the signal to display Green and Yellow at the same time.</p> <p>The wires were separated and insulated. The signal system was tested and found to be working as intended with no exceptions.</p> <p>The signal system was returned to service on August 25, 1995 at 10:00 AM.</p>									
510	8/26/1995	HBT		CTC		SP 2694	Track Repeater	Houston, Texas	N
<p>Bridge gang started construction work Sept. 1, 1995 to replace wooden bridge with concrete bridge. Signal cables buried beside the track, in the bridge approach, had been damaged. On the evening of Sept. 26, 1995, SP 2694 with 81 cars was moving approx. 5 MPH across bridge going into SP yard. The HBT Operator had lined the route and when train entered control point circuit, the Operator started another route. When the 24th car of the SP train was crossing the no. 2 switch, the track repeater relay in the control house picked up, choosing [illegible] the control point and [ends in midsentence]</p> <p>Allowed the stored route to clear, which called for the no. 2 switch to return to normal. Found the damaged cable had a 10 amp ground on the TP wires. The track relay was deenergized. The TP relay was the only relay with false battery at the time. Switch cable and trunk cables were meggered and found to be bad and taken out of service. Control point temp. out of service while new cable being installed.</p> <p>This location had been tested in July 1995, no grounds found.</p> <p>Report late because of oversight by office while I was at AAR conference.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
511	8/28/1995	CR	AB			Train PIH08, Engine	Signal 549	Columbiana, OH	N
<p>Engineer on train PIH08 reported signal 549 displayed STOP AND PROCEED with train 261F (with engine and 3 cars) ahead. When train 261F occupied the interlocking at CP Lum, signal 549 went to CLEAR for about 60 seconds, then to APPROACH. Cause was found to be an unauthorized jumper applied to the 4TR track circuit. Jumper removed, signal system tested and returned to service. Investigation being conducted to determine responsibility.</p>									
512	8/28/1995	SP	CTC			SP 1SGSNC-27	Signal 6598A	East Gilluly, UT.	N
<p>On August 28, 1995 at approximately 7:25 AM, Engineeroperating train no. 1SGSNC-27 traveling east, reported that as they were heading towards the East End of Gilluly, signal 6598A was Red, but as they got closer, the signal looked Yellow. The train proceeded but found the switch lined against them.</p> <p>Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The following morning, at the same time of day, the Signal Engineer and Signal Supervisor returned to the location for a visual inspection and observed that the early morning sun, shining on the signal, caused the Red aspect to look Yellow. A phankill unit was installed, and the problem was eliminated.</p> <p>The signal system was returned to service on August 28, 1995 at 2:00 PM.</p>									
513	8/29/1995	CR	CTC			Train TV-79, Engin	Signal 355W	Pittsford, NY	N
<p>Engineer on train TV-79 reported that signal 355W displayed CLEAR with signal 359W at STOP AND PROCEED. Problem was determined to be defective 355WHDR, 220-ohm retained neutral, style B2, polar relay. Relay was stuck in the normal position. Relay removed from service, replacement relay installed, signal system tested and placed back in service. Relay is being taken to manufacturer to determine cause of failure.</p>									
514	9/1/1995	MNCR	CTC			Train 1504	Insulated Joint	East Norwalk, CT	N
<p>Train #1504 received a Normal Cab because the route ahead was clear. The 4244 signal displayed STOP AND PROCEED due to defective insulated joint.</p>									
19	9/5/1995	CSXT	CTC			Train P62405	#6 Signal	N. Boynton Beach	N
<p>On September 5, 1995 Train P62405 reported that Train P62705 had a medium clear out of siding while P62405 had a clear signal down the main line.</p> <p>Signal system was removed from service. Signal department personnel investigated the incident and discovered that vandals had damaged junction box causing the LBRG control to contact the LBDG control.</p> <p>The junction box was repaired and operational test completed. Signal system was returned to service.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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515	9/5/1995	NICD	APB			2004	Track Circuit	Porter, IN	N
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NICTD Signal Maintainer was called out on the morning of September 5, 1995 to locate and repair the source of restrictive signal indications between and including the opposing head block signals located at the east end of Wilson passing track and at the east end of Bailly siding. It was later learned that the restrictive indications were the result of an insulated joint short-circuited by damaged rail at the fouling circuit where the west end of North Bailly siding meets the main track.

The Signal Maintainer was unaware of the shorted insulated joint when he discovered that track relay A472 was de-energized at the cut section at the west end of North Bailly. In an effort to locate the source of failure, the signal maintainer made the usual checks of the track circuit including the relay, the transformer, fuses, rail, and bonds. However, the cause of failure was not apparent.

With the knowledge that no scheduled trains were forthcoming and that extra freight train #2005 was expected to enter the main track from North Bailly siding, the maintainer decided to temporarily exchange the track connections on track relay A472 to isolate the source of trouble. This change placed track relay A472 in phase with (at the same instantaneous polarity of) 472 track transformer located immediately east of the insulated joints. Track relay A472 energized as a result of this test.

As freight extra #2005 entered the mainline and proceeded west through track circuit A472, the maintainer observed that track relay A472 released but re-energized as the train neared the west end of track circuit A472. Consequently, the maintainer immediately restored the track relay connections to their original configuration.

The activities described above caused the eastward head block signal at the east end of Wilson passing track to momentarily display a PROCEED indication. This indication was observed and reported by a high-rail track inspector waiting for a meet with freight extra #2005. Simultaneously, a momentary CLEAR indication was also observed at the dwarf signal at the west end of North Bailly siding and reported by the crew of freight extra #2004. However, the responsibilities of train #2004 did not require movement out of North Bailly at that time. Hence, the signal was not passed.

After the maintainer returned track circuit A472T to its original configuration, track relay A472 would not re-energize because of the shorted insulated joint. Subsequently, the failed joint was discovered and replaced along with the damaged rail in North Bailly siding. Insulated joint and shunt tests were performed to check the vitality of the adjacent track circuits.

The maintainer was instructed that the troubleshooting procedure employed in this case was an unsafe practice. Maintenance practices, both good and poor, will continue to be the subject of ongoing maintainer training.

516	9/11/1995	ATSF	AB			811	Unknown	Colmor, NM	N
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Approximately 6:10PM, September 11, 1995 Amtrak engineer reported signal 7102 at the west switch of Colmor Red and approach signal 7112 was Green for his train. Signal Department was notified and made operation test of the signal system in question, with no exceptions taken. The control relay for signal 7112 was replaced (22HDR) as a precautionary measure. The signal control relay (22HDR) has been sent to our signal repair shop for more extensive tests and inspections.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
48	9/13/1995	UP	CTC			UP3589	None	Mesquite, TX	N
<p>On September 13, 1995, at 09:22 (CDT) on the Dallas Subdivision, westbound LIFW-12 observed westbound Signal T207 CLEAR (Green) with westbound signal T208 APPROACH MEDIUM (Yellow/Yellow), and westbound signal T209 at STOP (Red).</p> <p>An investigation revealed the Yellow/Yellow signal at westbound signal T208 was caused by a wrap in the line wires shorting the 25RBH and 25RHD circuit which had the same common.</p> <p>The system was restored to proper operation, and all applicable tests were performed.</p>									
31	9/18/1995	NS	CTC			Unknown	Signal	Maxwell, MO	N
<p>At approximately 7:40 AM, westbound SP Train CHRBM was in the BN siding east of Maxwell Control Point as eastbound BN Train 154 cleared them on the BN main track. Train CHRBM got a DIVERGING APPROACH indication on the leaving signal at the BN siding, and at the same time called out STOP indication which they saw on the next signal, the 48L signal at NS Control Point Maxwell. The 48L signal was about 1300' ahead of the train as it started to move out of the BN siding. The SP engineer stopped his train at a point about 780' from 48L signal to let vehicular traffic pass on highway crossing. At that location, the crew reported seeing 48L display Red over Yellow, DIVERGING APPROACH, and so the engineer started to move again toward Maxwell. When the train got within about six (6) car lengths from signal 48L, they noticed it was then Red over Red, STOP. The engineer was able to stop the train with only one truck of the lead engine past the 48L signal. The NS dispatcher had not lined a route for Train CHRBM, and this fact was verified later by reading data loggers.</p> <p>Signal personnel were called to investigate and after making appropriate operational and FRA tests, were unable to duplicate the incident or find any problem with the signal system. A phantom signal was suspected and confirmed four days later under similar sunlight conditions. It seems that the rising sun was reflected partly by some aluminum signal cases on the north side of the track, and that contributed to the phantom. A 10-degree deflecting lens on the 48LB head was removed to lessen the chance of the phantom signal. The signal was realigned to account for track curvature. The 48L signal was also changed from approach to continuously lit due to the fact that a phantom has been seen on it, and a dark signal is more susceptible to a phantom aspect.</p>									
517	9/22/1995	SP	CTC			SSW8053, 1LBMFT	Signal 1576	Luling, TX	N
<p>On September 22, 1995 at approximately 7:45 PM, Engineer operating train no. 1LBMFT1-20 traveling east, reported that signal 1576 was Green followed by a Yellow at the West End of Luling, and a Red at the East End of Luling. Signal 1576 should have been Flashing Yellow.</p> <p>Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The 1576 signal displayed Flashing Yellow when same lineup was made as was present for the 1LBMFT1-20.</p> <p>The following evening, at the same time of day, the Signal Supervisor returned to the location and observed that the signal had no phantom indication and was clearly visible.</p> <p>The signal system was returned to service on September 22, 1995 at 9:40 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking Systems	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
49	9/25/1995	UP	CTC			UP3970	Signal Head	Kansas City, KS	N
<p>On September 25, 1995, at 07:50 (CDT) on the Kansas City Terminal Subdivision, westbound KSSI-25 on Track No. 3 at Control Point K006 reported the westbound signal Red over Yellow for his movement from Track No. 3 to Track No. 2 and the switch was lined against him.</p> <p>An investigation revealed the sun reflections in the lower signal head diffused the Red signal and made it appear to give a Yellow indication.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
518	9/28/1995	SEPA	AB				Open Wire Pole Line	MP 17.5 to MP 18.6, Neshaminy Line	N
<p>Nature of Failure: Engineer reported passing NB automatic signal #71 displaying CLEAR and approaching next NB automatic signal #73 displaying STOP AND PROCEED.</p> <p>Cause of Failure: Inspection of pole line conditions revealed open line conductors 73H, 75CX110 and 72A were crossed due to vegetation growth. In addition, investigation revealed single conductors at a line drop to a terminal box were bare in a bridle ring above the terminal box, grounding circuits 73H, 76H and 75CX110 and shorting an isolation transformer located at #72 automatic signal feeding 76H circuit and 75CX110.</p> <p>Corrective Action Taken: NB automatic signals 71 & 73 and SB automatic signals 76 & 72 were placed in their most restrictive condition. All brush and vegetation were removed, line wires were realigned and affected conductors in line drop were replaced. Isolation transformer feeding energy to 76H circuit was also replaced. System was tested and returned to service.</p>									
519	9/30/1995	CR		Automatic		Engine #2	4W Signal @ Burnham	Burnham, IL	N
<p>Engineer on NICTD train 509 observed signal 4W CLEAR with M/W crane occupying 2CT track circuit in interlocking. Cause was determined to be jumper placed on 2TPR relay by signal maintainer who was working with M/W equipment. Jumper removed after train moves were completed.</p>									
520	10/2/1995	SP	AB			Switcher JOB 891	Signal 9040	Phoenix, AZ	N
<p>On October 2, 1995 at approximately 2:00 AM, Engineer operating switcher JOB 891 traveling east reported that signal 9040 was Green while switcher JOB 888, making a move at 15th Avenue, had switch 374 lined for the team track but was clear of the fouling section. Signal 9040 should have been Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was thoroughly tested. The cause of the problem was found to be a line wire wrap between line wires 9040H, 9040D and 9034H west of 15th Ave. near MP R-905.1. Marks found on the pole near the wrap indicated it had been hit by a truck, thus causing the wrap (the line wires were strung too tight to have been wrapped due to high winds).</p> <p>The line wires were unwrapped. The signal system was tested and found to be working as intended with no exceptions.</p> <p>The signal system was returned to service on October 2, 1995 at 8:30 AM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
521	10/3/1995	SP	CTC			SP 1CPKIC-01	Signal 1EA	Pueblo Jct., CO	N
<p>On October 3, 1995 at approximately 5:23 PM, the 1CPKIC-01 moved eastward past signal 1EA with the switch lined reversed against him and left the switch out of correspondence with bent rods. When questioned later, the Engineer advised that he had been stopped at the signal for an opposing train, and after it cleared the switch, he saw the signal 1EA display a Red over Yellow and he proceeded without observing that the switch was lined against him. He stopped at the next signal 2EA until the dispatcher cleared it and then proceeded without realizing that he had damaged the switch by training through it.</p> <p>The Signal Supervisor repaired the switch machine and thoroughly tested the signal system. He found it working as intended. The Digicon system showed the switch reversed and the signal 1EA at STOP when the 1CPKIC-01 went by the signal.</p> <p>The Signal Supervisor observed the signal at the same time the next day and found that signal 1EA was washed out by the sun shining into it. He installed phankills on the eastward signals at this location.</p>									
522	10/11/1995	CP		Automatic		See Below	4RC & 4L Signals	Dewey Indiana	N
<p>At approximately 1400 hrs on October 11, 1995, CP Rail System Maintenance of Way employees were raising the crossing at N. 25th Street, CSX Dewey Diamond, in Dewey, Indiana. The gang was working under Form B authority obtained by the foreman. Because of the intermittent shunting of the equipment, the Signal Maintainer held up the 2 LT relay. CSX trains were operating over the Diamond, on signal indication with the 2 LT relay held up.</p> <p>It has been explained to the Maintainer that this is not an acceptable practice. Disciplinary action will be taken.</p>									
523	10/18/1995	CR	CTC			Train SENS-7, Engi	Signal P383	Shippensburg, PA	N
<p>Engineer on train SENS-7 reported that signal P383 displayed a CLEAR aspect with signal 15W at CP Ship displaying MEDIUM APPROACH. Problem was determined to be false energy on L15APC circuit due to grounded and crossed aerial cable conductors between Loc "C" and Loc "D" at CP Ship. Cable removed from service, new cable installed, signal system tested and returned to service.</p>									
524	10/22/1995	SP	AB			SP 1HOCMX-20	Signal 1496	Lafayette, LA	N
<p>On October 22, 1995 at approximately 11:45 AM, Engineer operating train no. 1HOCMX-20 traveling east, reported that signal 1502 at the West End of Scott was Yellow, signal 1496 was Green and signal 1482 was Red. Signal 1496 should have been Yellow.</p> <p>Under the direction of Signal Supervisor, the signal system was put to STOP and thoroughly tested. It was found that the coil wires on the 1496HR relay had been transposed, thus causing the signal to display the incorrect aspect.</p> <p>After the wires were switched to their proper positions, the signal system was again tested and found to be working as intended with no exceptions.</p> <p>The signal system was returned to service on October 22, 1995 at 2:00 PM.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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525	10/25/1995	LI		Remote		1624	Signal Circuitry	Divide Interlocking	N
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At Divide Interlocking, an eastbound route was displayed for train 1624, to route the train from Main Line #2 Track, 3-2E signal, to Station Track #2, 3-2W signal. In addition, a stored route had been established for train RF-31 from Station Track #1, 3-1W signal to Main Line #2, 3-2E signal. The track circuit 3-A1TR, which is the first circuit east of 3-2E signal on Main Line #2, momentarily de-energized (flipped). This caused the previously established route (3-2E to 3-2W) to reset, enabling the stored route (3-1W to 3-2E) to be established via a back to train stick feature. Signal 3-1W then displayed a RESTRICTING aspect.

Corrective Actions:

1. The back to train stick features were disabled.
2. Conflicting stored route operation was prohibited via a computer warning on the "CRT" and written procedures from the Transportation Department.

1	10/29/1995	BNSF	CTC			BN 9509	Wiring Error	West Antelope, WY	N
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At approximately 13:00 hours on 10/29/1995 eastbound train lead locomotive BN 9509, Conductor and Engineer reported intermediate signal at MP 28.1 displayed Green aspect. Next location West Antelope train went on to diverging route with a Red over Green signal displayed. Signal system was tested and wiring error was found. During circuit changes for a signal cutover on 10/27/1995 a wiring error was made. Normal switch correspondence check was inadvertently left out of the pole change circuit feeding line circuits between West Antelope and intermediate signal at MP 28.1. Wiring error was corrected, signal system tested, and placed back in service at 16:36 hours on 10/29/1995. Attachments include diagram of train movement and portion of signal circuit plan. Investigation scheduled for signal employees involved.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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526	10/30/1995	CP		Remote		CP 5502	Equip. VHLC - 2WB Sig.	Nasohata West (MP 114.8), Oconomowoc,	N
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Train #571 (CP 5502) reported that the signal out of the siding at West End of Nashatah (MP 114.8) with switch lined for normal move (main line). Engineer reported signal came in for second then went Red.

Dispatcher had Amtrak #7 (westbound) go thru Nashotah West and was going to bring #571 out of siding after #7 but forgot to line switch reverse before requesting a signal clear with a call-on. When he realized what he had done he sent out cancel signal request. We had Electronic Tech in Control Office pull the logs on the Nashotah West location and they confirmed what the dispatcher said that he had done. It showed that the 1WA which is the main line signal, did clear for a second before the dispatcher sent out the signal cancel request. The location at that time, went into time because the East End of Nashotah was lined into the West End of Nashotah.

We tried to duplicate the moves that took place with the dispatcher and shunts but were unable to get the 1WB to show CLEAR. Also tried with another west bound train. All batteries at location showed free of any grounds.

The logs pulled showed that the 1W B signal never showed CLEAR until the switch was lined reverse and then dispatcher requested the signal. Also pulled logs from VHLC and they agreed with logs from office.

The following day when the Engineer came back on duty, I talked with him and told him of our testes [sic] and logs he said that he would hate to think that he was looking at the wrong signal but could have been. The train was sitting back from the signal five or six car lengths. It was also dark and they had been sitting in siding for about one hour twenty minutes.

After talking with the Engineer and making all tests and checking logs I put the 1WB signal back in service.

No further problems have occurred.

527	10/30/1995	SP				SP 5HPHLE-30	Signal 6420E	Kyune, CO	N
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On October 30, 1995 at approximately 9:05 PM, Engineer operating train no. 5HPHLE-30 traveling east, reported that signal 6420E was Green, with a Red over Lunar at signal 6400E at the West End of Kyune. Signal 6420E should have been Yellow.

Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. A visual inspection of the signal, conducted over a three day period following the incident, did not show any malfunctions.

The signal system was returned to service on October 31, 1995 at 12:30 PM.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
528	11/2/1995	EJE					Track Relay	Vernon Hills, Illinois	N
<p>On subject interlocking, a track circuit BNWLP, in the fouling section is so arranged that when the Electric Lock installed on the switch allowing movements from the siding onto the main and into interlocking limits is unlocked or opened 1/4" from full normal, the track circuit is de-energized. Once de-energized, it de-energizes a relay that is used as the OS track. All signals on all routes are effectively slotted off with the OS relay down.</p> <p>Shunt fouling wires were inadvertently installed from the main to the fouling section. When the electric locks were unlocked or opened 1/4" from full normal, the track relay BNWLP remained energized through the OS track battery, not effectively slotting off all signals.</p> <p>Shunt fouling wires were removed correcting the failure.</p>									
2	11/6/1995	BNSF	CTC			Train #1347	Signal 2136.3	Galva, IL	N
<p>Dispatcher reported an unsolicited CLEAR aspect on the westbound absolute signal at Galva on Main track #2. Amtrak #1347 westbound on Main #1 verified to Signal Supervisor that the approach signal on Main #2, Signal #2136.3, displayed an APPROACH MEDIUM aspect with the absolute signal at Galva displaying a STOP aspect. Amtrak had been instructed to stop at Galva even though the train was not on the track affected.</p> <p>Wire thieves stole copper communication wires at MP 136.9. There were (12) twelve spans of wire stolen. The tails of the copper wire that were left were laying in the signal wires. This caused the 2136-FYR relay to falsely energize thus causing the signal at 2136.3 to be display an APPROACH MEDIUM aspect in lieu of an APPROACH aspect.</p> <p>Correction: Removed all copper wires that were hanging down in the open signal wires. Made operating tests and left working ok.</p>									
529	11/6/1995	SP	AB			Pittsburg Local	Signal 391	Avon, CA	N
<p>On November 6, 1995 at approximately 5:00 PM, Engineer operating Pittsburg Local reported that signal 391 was Green with the hand throw switch at MP B-38.1 in reverse position, lined for the siding. Signal 391 should have been Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was put to STOP and thoroughly tested. The two wires going from the NWP relay coils were incorrectly wired to a battery source coming from an aerial cable, thus, bypassing the U-5 switch circuit controller box at the West End of Avon, and causing the NWPR to remain energized when the switch was reversed.</p> <p>The circuit was rewired, the signal system was thoroughly tested and found to be working as intended with no exceptions.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
530	11/7/1995	SP	AB			SP 1BSMFF-05	Signal 14619	Ancho, NM	N
<p>On November 7, 1995 at approximately 7:40 AM, Engineer operating train no. 1BSMFF-05 traveling west, reported that signal 14619 at W. Ancho remained Green while the 1WCKCQ-04 traveling east was occupying all 3 track circuits on the main track at W. Ancho, and that the signal had remained Green the whole time that the 1WCKCQ-04 was approaching the West End of Ancho.</p> <p>The Signal Engineer investigated and found that a mouse had eaten through the battery and lamp wires insulation, inside the signal junction box. A battery wire was touching the Green lamp wire which could cause the lamp to display Green even when the block is occupied.</p> <p>[Signal personnel] replaced the bare wires, sealed the box, made full operational tests with shunts, tested relays, and meggered cables. The signal system was then working as intended and was returned to service.</p>									
531	11/8/1995	KCS	CTC			746	?	Noel, MO	N
<p>At 23:03 hrs on 11/8/95 northbound Extra Train 0006 of the 7th reported going by signal #2046 (approach signal to South Noel) with a CLEAR indication and arrived at South Noel with a Red absolute signal. The train got by the absolute signal but was able to stop before any further incident. Please review attached statement from the Signal Supervisor for more information from testing and from crew interviews. Also find attached a consist report and a train report from dispatchers office.</p> <p>[From the Signal Supervisor's report] The report was investigated by the Signal Maintainer and myself. We were unable to reproduce the reported conditions. Also nothing was found that would contribute to the reported occurrence, such as grounds or relays out of spect [sic]. We did find that at a place about a mile north of signal #2046 where a street light could possibly be mistaken for a Green signal off in the far distance. This light might very well be mistaken for a signal in the distance if someone was not alert and was not sure of his location.</p> <p>While later talking to the engineer, I asked him about this possibility, but he did not think so. The brakeman told me that he did not see the aspect of the approach signal which leads me to believe that the crew was not calling signals that night.</p>									
50	11/9/1995	UP	CTC			UP2324	None	Marysville, KS	N
<p>On November 8, 1995, at 11:15 (CST) on the Marysville Subdivision, westbound LNE75-08 flagged by Red signal at Z150. The westbound train ahead of LNE75-08 was stopped by the Signal No. 153.7 with 2 1/2 cars of the train east of the insulated joints. As LNE75-08 approached Signal No. 153.7, his cab signal upgraded from Red to Yellow.</p> <p>An investigation revealed the current of the ACS east of the insulated joint at signal No. 153.7 was 3 amps which allowed the current to pass under the stopped 2 1/2 cars upgrading the ACS in LNE75-08.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
32	11/12/1995	NS	CTC			8592-6520	Poleline	Bradshaw, WV	N
<p>At approximately 1:40 AM, Train No. Q16U710, traveling westbound on the Dry Fork Branch, reported they observed intermediate signal I-125 change from RESTRICTING to CLEAR for about a minute and a half then go to APPROACH. This occurred as light engines running as Train No. 960U7 were reportedly passing the controlled signal ahead at Bradshaw, MP I-11.5.</p> <p>Signal personnel were called to investigate and upon arrival were unable to duplicate the problem. However, it was observed that the pole line was storm damaged at five locations between Mileposts I-11.5 and I-12.5. Line wires that controlled the aspect of signal I-125 were either shorted or broken. Five trees were then removed from the line, and the wires were repaired. All involved equipment was tested and an operational check was made on the signal. The signal system was found to be operating properly and was released for service.</p> <p>Analysis of the line wires damaged by the fallen trees indicated that possibly leakage through the wet trees laying across the line could have conducted enough current to have picked the 125 HD relay. This condition would only have been a possibility while the OS circuit at Bradshaw was de-energized which it was for about a minute and a half while Train 960U7 was passing. It was concluded that the factors present could have caused signal I-125 to display a false proceed aspect.</p>									
532	11/12/1995	URR		Remote		Engine #7	---	Signal 176	N
<p>On November 12, 1995, signal 176, a southbound controlled signal, was reported by Engine 7 to have displayed a CLEAR (Green) instead of a MEDIUM CLEAR (Red over Green). The system is a color light system with light-out relay circuits. A printout of controls and indications was obtained from the office system to verify that crossover 187 was in the reverse position. The light-out relays were checked along with the 176 AHR relay and its associated circuits. The relays were tested and all pertinent cable meggered. The exact conditions that took place on November 12 were duplicated, but we could not duplicate the failure. There were no grounds found on the system.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
33	11/15/1995	NS	CTC			3274	Poleline	Carbo, VA	N
<p>At Approximately 7:05 PM, Train No. S90U715, engineer and conductor unknown, was traveling eastbound when they saw a tree that had fallen over the top of a slide fence and was blocking the track near MP CV-435. The train was stopped short of the tree. The train had been running on a signal to PROCEED, observed at Carterton MP CV-436.2.</p> <p>The signal maintainer and a track crew were called to remove the tree and check the slide fence. The maintainer observed that the slide fence trigger near the point where the tree fell was tripped. Once the tree had been removed and the train had left the block, the block light showed CLEAR, even though the trigger was still tripped.</p> <p>The trigger that was tripped is one of several spaced along a quarter mile long slide fence. The slide fence circuit runs along the top of the slide fence poles mounted on insulators. The single break slide fence circuit loops through each trigger and then returns to the slide fence relay via the signal poleline which was on the opposite side of the track from this fence. The falling tree had broke the line wire at the top of the fence and then hit the fence tripping the trigger. Both ends of the line wire were shorted to the slide fence, thereby bypassing the tripped trigger. Insulation had been stripped from the line wire as it jerked through the insulators before the tie wires broke. This allowed the line wire ends to make electrical continuity with the steel fence material.</p> <p>Repairs were made to the line wire, the trigger was reset and tests were made on the signal system before returning it to service.</p>									
533	11/16/1995	SP	CTC			SP 1LBHOT-15	Signal 50RA	Akela, New Mexico	N
<p>On November 16, 1995 at approximately 2:50 PM, Engineer operating train no. 1LBHOT-15 traveling east, reported that signal 50RA at the West End of Akela was Green when it first came into view, then changed to Yellow when the train was a mile away, and heading towards the signal.</p> <p>Under the direction of the Division Signal Engineer, the signal system was put to STOP and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions.</p> <p>The signal system was restored to service on November 17, 1995 at 3:30 AM.</p>									
534	11/16/1995	SP	AB			Work Train 7435	Signal 4279	Klamath Falls, OR	N
<p>On November 16, 1995 at approximately 3:00 PM, Engineer operating work train no. 7435 traveling east, reported that while only half of his train had passed signal 4279, he observed that signal 4279 was Yellow instead of Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was thoroughly tested, and it was found that the 4274T and 4274AT track circuits did not slot the 4279H control. The problem was immediately corrected; the signal system was thoroughly tested and found to be working as intended with no exceptions.</p> <p>The signal system was returned to service on November 16, 1995 at 6:30 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
535	11/17/1995	FEC			ATC	426	Not Determined	Espanola, Florida	N
<p>On November 17, 1995 at approximately 19:28 hours train no. 117 engine no. 426 reported cab signal remained at APPROACH HOME Y/R when engine 426 entered the approach code change block located at 1500 feet in advance to home signal 1S at CP South Dorena located at Milepost MJ 28.8. The cab signal should of changed to STOP R/Dark when entering this block. After thorough investigation on 11/17, 11/18, 11/22, 11/27 and 11/28 the events that occurred on the evening of 11/17 could not be duplicated. Extensive testing was performed on the locomotive equipment [at] the field location. A grounded track wire on the 1NBRB east rail and a ground on the N12 battery buss measuring 6 amps at the time of the incident were the only exceptions noted with the normal functioning of the system. The N12 ground was cleared on 11/17 and the track wire on 11/18. With duplications of these grounds during testing no devices failed that would of caused the incident. A recorder board has been installed on the 1NB Electrocode unit and the locomotive CSR unit has been forwarded to the factory for further testing.</p>									
51	11/18/1995	UP	AB	Manual	ATS	EX140	None	Barrington, IL	N
<p>On November 18, 1995, at 09:15 (CST) on the Harvard Subdivision, southbound train EX140 had a Red over Green signal for movement from No. 3 track to No. 2 Track at CP T031, Barrington, with a northbound train lined into No. 2 track at CP N019, Seeger.</p> <p>An investigation revealed a circuit design error in the traffic locking circuit at CP T031.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
536	11/19/1995	SP	AB			SP West Local	Signal 9064	Phoenix, AZ	N
<p>On November 19, 1995 at approximately 3:57 AM, the Engineer operating train West Local traveling east, reported that signal 9064 was Green with a train still occupying the block ahead of him. Signal 9064 should have been Red.</p> <p>Under the direction of the Signal Supervisor, the signal system was put at STOP and thoroughly tested. It was found that during the relocation of the hand throw switch at MP 906.6, two track circuits were left out of the signal system. The problem was immediately corrected, the signal system was thoroughly tested and found to be working as intended with no exceptions.</p> <p>The signal system was restored to service on November 19, 1995 at 4:00 PM.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
537	11/20/1995	SEPA		Remote			Unknown	Sig. 20L, Newtown Jct. Int., MP 6.2	N
<p>Nature of Failure: Engineer reported passing signal 20L displaying MEDIUM CLEAR and approached next signal, signal 4W at CP Nice, displaying STOP.</p> <p>Cause of Failure: Could not repeat the condition, therefore could not verify that the condition existed. It should be noted the signal 20L does not display a MEDIUM CLEAR for the route taken.</p> <p>Corrective Action Taken: Performed all necessary tests and inspections to determine if the condition existed. It was determined that the system was working as intended and that the reported condition did not exist. Therefore no corrective action was required.</p> <p>NOTE: From the conclusions drawn it is the position of SEPTA that a False Clear condition did not exist and the condition is only alleged.</p>									
52	11/28/1995	CSXT				NPST-26	None	Orinosa, Utah	N
<p>On November 28, 1995, at 13:45 (CDT) on the Elko Subdivision, westbound train NPST-26 had a Green aspect at Signal No. 830.1, a Flashing Yellow aspect at Signal 827.7 and a diverging Red over Lunar aspect at Signal CP F826.</p> <p>An investigation revealed the signal case at MP 827.7 had been run into by a vehicle and upset relays RLPR, 180CTR, and DRAR which had to be replaced.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
3	12/1/1995	BNSF	CTC			1-4108-1	Int. 1248.2	Radnor, MT	N
<p>A tree fell into the poleline at MP 1247 causing the D and DD to become wrapped. This caused the signal at 1248.2 to upgrade from Flashing Yellow to Green. Train crews reported next signal (approach to West Radnor) as Yellow and West Radnor as Red over Lunar. Although braking distance was okay for these signals, the fact remains that signal 1248.2 should have been FY for this movement. Line wire wrap removed and signals returned to service.</p>									
538	12/2/1995	SP	CTC			1EUDOQ-KO1, SP	Signal 50LB	Heather, Oregon	N
<p>On December 2, 1995 at approximately 9:13 AM PST, Engineer was lined into the siding at East Heather for a meet with the 1LABRF2-01. The Digicon system showed that signal 50LB at West Heather was at STOP and the switch was normal with signal 50RA cleared for the 1LABRF2-01. [Engineer] later claimed that the signal 50LB was Green, after he ran through the switch and proceeded to East Wicopee.</p> <p>The Signal Supervisor repaired the damaged switch and then thoroughly tested the signal system, and found it working as intended with no defects.</p> <p>Signals were returned to service on December 3, 1995 at 5:00 PM PST.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
34	12/4/1995	NS		Automatic		Unknown ICG Engi	Design	Hattiesburg, MS	N
<p>At approximately 1:00 AM, northbound Train No. 294, Engine NS 6651, stopped short of its track warrant limits at the approach signal to Hattiesburg automatic interlocking. Train 294 was held to allow an ICG switching move to be completed in the vicinity of the interlocking. As the ICG switching movement progressed, it moved out onto the NS main track through a switch facing away from the interlocking. This was done under track warrant authority by NS dispatcher at Birmingham, and when the switch was reversed by ICG, a stick circuit was set which would normally have been used to allow a key stand clearing for ICG movement across the interlocking. However, the stick circuit was held up by Train 294's presence on the approach circuit at the time the stick was set. Once Train 294 received a track warrant to proceed and observed they had a CLEAR indication at the approach signal, the engineer started movement toward the interlocking. Meanwhile, the ICG switching movement that had completed their switching came up to the interlocking on their track and checked the indication on their key stand. Because the stick circuit was still up, the ICG crew had a CLEAR indication that meant that they could activate the pushbutton. When the button was pushed the ICG got a signal to proceed across the interlocking, which they did. When the ICG move occupied the "OS" it illuminated a holding signal for Train 294, and that train again stopped until the ICG movement cleared the interlocking.</p> <p>The design problem that permitted this scenario was corrected, the signals were checked out and returned to service.</p>									
20	12/7/1995	CSXT		CTC		Train R27205	None	Troy, OH	N
<p>On December 7, 1995 at approximately 1240 hours, the crew of northbound train R27205 alleged that they had a STOP AND PROCEED on the northbound absolute signal (21R) at the South End of Troy. This signal was not requested by the train dispatcher at this time. Signal system was removed from service and investigation began. Signal and Transportation personnel concluded that the A marker appeared to be dimly lit due to the effects of sunlight. An alternate hood was placed on the signal to correct the sunlight and signals were restored to service.</p>									
53	12/8/1995	UP		CTC		SP8353	None	Menard Junction, IL	N
<p>On December 8, 1995, at 10:00 (CST) on the Chester Subdivision, northbound FHOCH-06 had a Green signal at CP D061 with intermediate northbound signal 58.3 displaying Red and the track north of Signal 58.3 occupied.</p> <p>An investigation revealed a neutral relay was installed in lieu of a biased relay in the "D" circuit at CP D061.</p> <p>The signal system was restored to proper operation, and all applicable tests were performed.</p>									
4	12/12/1995	BNSF		CTC		Train 01-131-12	Power Switch	Afton, OK	N
<p>Replaced crossover switch machine (67sw) on main track number 2, Afton, OK. When crossover was requested reverse, switch 67A on main track number 1 did not throw reverse and stayed in the normal position. Switch 67 on main track 2 threw reverse and crossover indicated reverse through incorrect jumpers in 67sw allowing signal 68RB to display false proceed signal through crossover. Train ran through switch on main number 1. Removed incorrect jumpers and tested crossover, system functioned as intended.</p>									

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
540	12/18/1995	AMTJ		Remote		Engine 1069	Signal R58	Somerville, MA	N
<p>At Swift Interlocking on the Fitchburg mainline in Somerville, MA, lite engine 1069 reported receiving a SLOW CLEAR on signal R58 lined to a non-signaled track. Investigation revealed that the R58 DPR circuit was not selective enough and allowed a SLOW CLEAR to be displayed into a non signal track. The R58 signal network has been revised and all appropriate tests were performed leaving the R58 signal working as intended.</p>									
539	12/18/1995	SP		CTC		SP 1WCPBM	Signal 6232	Mecca, CA	N
<p>On December 18, 1995 at approximately 7:38 AM, train crew operating the 1WCPBM traveling east, reported that approach signal 6232 went from displaying a Yellow aspect to a Flashing Yellow aspect, with them lined into the siding at the West End of Mecca.</p> <p>Under the direction of the Signal Supervisor, the signal system was inspected and thoroughly tested. All tests showed the signal system to be working as intended with no exceptions. The light bulb was replaced in the 6232 signal, and the signal system was restored to service on December 18, 1995 at 8:30 AM.</p>									
5	12/19/1995	BNSF		Remote		1-G83-18	Alleged 1NA Signal	21st ST. Interlocking, Tacoma, WA	N
<p>Train 1-G83-18 northbound on -1 between Ruston and 21st Street Interlocking reported they had an APPROACH indication at signal 1.6 and when they got to 21st Street Interlocking, crew claims signal 1NA went from APPROACH indication to Red. Dispatcher logs show that no signal was requested and that no signals at this location indicated CLEAR.</p> <p>Tested signal heads, cable, interlocking, and indications back to office - all tests completed with no exceptions taken. (When signal is positioned to other than the Red position with no request from the dispatcher, signal shows as an unsolicited CLEAR and is logged in the log files.)</p>									
541	12/20/1995	SP		AB		1BSMFF19 West	Wire Eyelet	West Missler, Kansas	N
<p>On Dec. 20, 1995 at 7:55 PM Engineer operating the 1BSMFF-19 reported that the westward signal 3977 on the main track was Green with the switch reversed at West Missler, Kansas. The Signal Supervisor tested the signal system and verified that signal 3977 was Green with the switch reversed. He found that the insulation on the ring eyelet or terminal had failed causing the number 4 front contact post to be connected falsely to the number 4 back contact of the 2NWPR relay thus allowing the 3977 HPR relay to remain energized when the switch was reversed.</p> <p>The defective eyelet was replaced and the signals were tested and found to be working properly. The signal system was restored to service at 1:00 AM on December 21, 1995.</p>									

Report #	Date	Reporting Carrier	Block System	Interlocking System	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
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35	12/22/1995	NS	CTC			3920	Signal	Jacksonville, IL	N
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At approximately 12:58 PM, Train No. D33D westbound was waiting in the siding at Arnold to meet an eastbound train. Train D33D was stopped about four (4) car lengths east of the westward signal, 56L. After the eastbound train passed on the Main Track, the crew on D33D observed signal 56L display Yellow over Yellow, ADVANCE APPROACH, for their move. The engineer started his train moving out of the siding. Just before reaching the power switch, the engineer observed that it was lined against his movement, made a normal stop but ran through the switch with his entire train. The dispatcher had not requested a route for D33D to leave the siding.

Signal 56L is a double mast bracket signal located to the right of the Main Track. Westbound movements on the main are governed by signal heads 56LA & 56LB on the right mast; the siding by signal heads 56LD & 56LE on the left mast. All heads are US&S H-2 with 9 volts (AC or DC) on the bulbs, and only the D & E heads (the siding signal) equipped with 30-degree deflecting lenses. A long sweeping right-hand curve is transversed approaching the west end of the siding. ADVANCE APPROACH is a valid signal to leave the siding.

The false Yellow over Yellow was observed on the 56L E&D heads by the investigating signal personnel. When compared to the Main Track signal Red over Red, the siding signal did appear Yellow over Yellow from an engine until it backed more than 150 feet back from the shunting joints. Tests revealed that this was a phantom signal, caused by sunlight reflecting off the snow covered ground in the early to mid-afternoon. Further experimentation showed where the removal of the deflecting lenses was the only sure way to prevent this phantom signal from occurring. The lenses were removed and the signals re-aligned to compensate. Signals were placed back in service.

Report #	Date	Reporting Carrier	Block System Narrative	Interlocking	Auto. Systems	Loco or Train No.	Device that Failed	Location	Collision or Derailment?
36	12/24/1995	NS	CTC			Unknown	Insulated Joint	Stearns, KY	N
<p>At approximately 9:45 AM, Train No. 108 was moving northbound on track #2 at Stearns, KY when they observed an APPROACH DIVERGING signal for their movement. Knowing they were to meet opposing southbound traffic at the end of the double track (the next signal), they expected to get an APPROACH indication at Stearns. Engineer reported the incident to the dispatcher and proceeded on to the end of double track at Whitley where he had a STOP indication as expected.</p> <p>The signal maintainer was arriving at Stearns to investigate a previously reported loss of train indication in the block where the false proceed signal was encountered. He was waiting on the traffic to clear before starting his investigation when Train 108 observed the false proceed. After Train 108 passed, the maintainer opened the signal case and observed the coded track relays chattering, indicating the presence of AC on the rails. The amount of AC on the rails diminished during the day, and so the relays never picked to the point of causing a repeat of the false APPROACH DIVERGING signal. However, one of the insulated joints at the signal read as having a four ohm short. The intermediate signal at Stearns is designed to receive only a minus code for an approach and a plus code for an approach diverging. The track was taken out of service pending resolution of the problem.</p> <p>The next morning, there was more induced AC read on the rails than on the previous day, but the insulated joint that had been shorted the day before now read over 65 ohms. However, by manually shorting out the joint, the relays chattered to the point that the "BD" relay falsely picked when only an "H" code was received resulting in a false approach diverging signal. Discussion with the local power company revealed that their load on a power line that crossed the track in the block was much higher in the morning than at other times of the day.</p> <p>To correct the problem, the intermittently shorting insulated joint was replaced, and reactors were installed in series with all coded track relays in the block. Tests were then run to verify that the problem could not be duplicated by shorting an insulated joint at the Stearns signal location. The signal system on track #2 was then returned to service.</p>									
6	12/30/1995	CSXT	CTC			None	Sig LA	West Purcell, OK	N
<p>Dispatcher reported signal LA, Main Line westward control signal, West End Purcell, OK cleared on its own and could not be taken down. Maintainer observed signal LA displaying a very dim Yellow aspect. Maintainer found signal had been shot, damaging the H-5 relay. Maintainer replaced H-5 relay and tested signal system. There were no trains that viewed the signal before the signal was placed to STOP by the signal maintainer.</p>									
542	12/30/1995	GTW	APB			6419	Block Line	Kingsbury, IN	N
<p>High wind conditions caused signal control wires to wrap. On December 30, 1995, at 22:30 hours, GTW train 172 East following behind train 144 East reported that ABS signal 75.4 went from a RESTRICTED SPEED indication (GTW Rule 290) to a PROCEED indication (GTW Rule 281). Split arm damaged by tree at MP 77.2 forced signal control wire "H" wire to make contact with signal control wire "D."</p>									

No. of Reports Shown in this Listing: **147**